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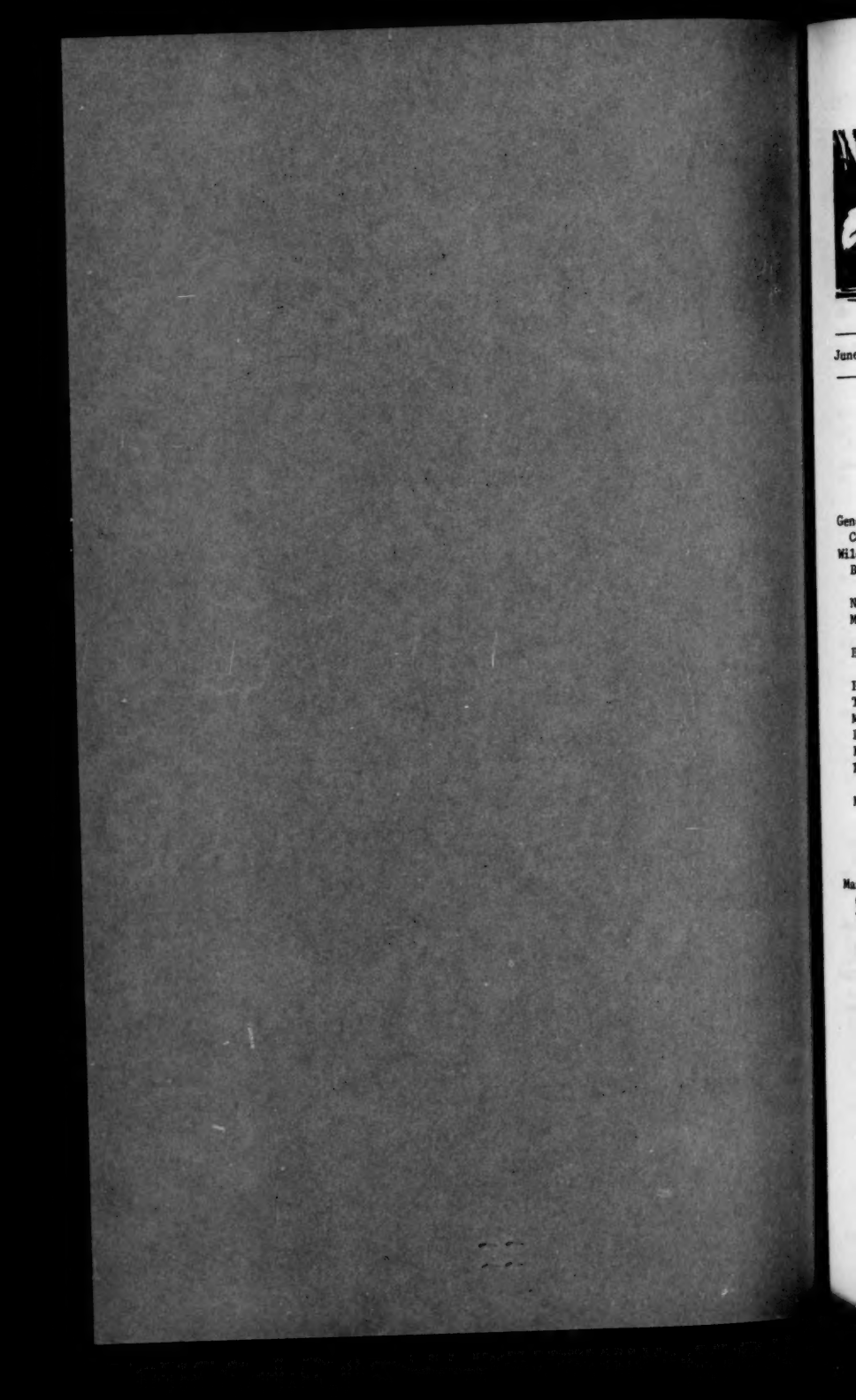

WILDLIFE REVIEW

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Except as indicated, abstracts are by Kenneth J. Chiavetta, editor.

CONSERVATION EDUCATION

Marckworth, Gordon D. STATISTICS FROM SCHOOLS OF FORESTRY FOR 1965. DEGREES GRANTED AND ENROLLMENTS. J. Forestry 64(3): 178-184. Mar. 1966. WR 126: 2

[Univ. Wash., Seattle.] Wildlife management degrees granted in 1965 were as follows: bachelor's, 194; master's, 58; doctoral, 15.

Marckworth, Gordon D. STATISTICS FROM SCHOOLS OF FORESTRY FOR 1966. DEGREES GRANTED AND ENROLLMENTS. J. Forestry 65(4): 265-271. Apr. 1967. WR 126: 2

[Univ. Wash., Seattle.] Increase in undergraduate enrollment which began in 1953-54 has continued, increasing from 10,329 in 1965 to the record high of 11,118 in 1966. Wildlife management accounts for 19% of the enrollment. In 1966 at 47 forestry schools, degrees were granted in wildlife management as follows: bachelor's, 194; master's, 70; doctoral, 11.

WILDLIFE--BIOTAS, ECOLOGY, NATURAL HISTORY

Felger, Richard Stephen. ECOLOGY OF THE GULF COAST AND ISLANDS OF SONORA, MEXICO. Ph.D. thesis, Univ. Ariz. 570 p. 1966. [From Dissertation Abstr. 27(7B), 1967.] WR 126: 2

WILDLIFE--NATURAL AREAS & REFUGES

Frank, Fritz. DIE BEDEUTUNG KLEINFLÄCHIGER SUMPF- UND ÖDFLÄCHEN FÜR WISSENSCHAFT UND NATURSCHUTZ. [THE IMPORTANCE OF SMALL AREAS OF MARSH AND DESERT FOR SCIENCE AND NATURE PROTECTION.] Ornithol. Mitteil. 14(11): 205-206. Nov. 1962. In German. WR 126: 2

Murray, L. H. BIRD SANCTUARIES IN SASKATCHEWAN 1887-1965. Blue Jay 24(3): 110-120. Sept. 1966. WR 126: 2

[24 Cornwall Crt., Regina, Saskatchewan, Canada.]

WILDLIFE--MORPHOLOGY, PHYSIOLOGY, BEHAVIOR, MIGRATION

Lowe, Charles H., David S. Hinds, Peter J. Lardner, and Keith E. Justice. NATURAL FREE-RUNNING PERIOD IN VERTEBRATE ANIMAL POPULATIONS. Science 156 (3774): 531-534, 3 figs. 28 Apr. 1967. WR 126: 2

[Univ. Ariz., Tucson.] Abstract: Regression analysis (analysis of covariance) is contrasted with the conventional "mean period length" for estimating the length of period of the spontaneous activity frequency (free-running period) in population samples of Gila monsters (Heloderma suspectum) and kangaroo rats (Dipodomys merriami) in the Sonoran Desert. The mean period length in each population does not differ significantly from 24:00 hours (P is greater than .05) and it does not differ significantly (P is greater than .05) between the species studied; the probability that the free-running period (in constant dark) in natural populations of Gila monsters and kangaroo rats is different from 24:00.0 is less than 1 in 1000 (P is less than .001). The so-called "mean period length" is of little or no use for precise determination of the period and phase relationships in circadian rhythms; moreover, it is entirely without value for statistical testing of differences either within or between populations.

WILDLIFE--EFFECTS OF CHEMICALS, WEATHER, CARS, ETC.

Beasley, Thomas M., and Harvey E. Palmer. LEAD-210 AND POLONIUM-210 IN BIOLOGICAL SAMPLES FROM ALASKA. Science 152(3725): 1062-1064. 20 May 1966. WR 126: 2

[Battelle Memorial Inst., Richland, Wash.] Concentrations are given for tissues of lichens, salmon, butterfish, white fish, seal, polar bear, and caribou.

Greenwood, Raymond J., Yvonne A. Greichus, and Ernest J. Hugghins. INSECTICIDE RESIDUES IN BIG GAME MAMMALS OF SOUTH DAKOTA. J. Wildl. Mgmt. 31 (2): 288-292, 1 fig. Apr. 1967. WR 126: 3

[Northern Prairie Wildl. Res. Center, Jamestown, N. Dak.] Abstract: An analysis was made of eight insecticide residues in the renal fat tissue of 23 white-tailed deer (Odocoileus virginianus), 13 mule deer (O. hemionus), 9 pronghorns (Antilocapra americana), and 2 elk (Cervus canadensis) collected in South Dakota during the fall of 1964. Identification and quantitative analysis of the insecticide residues were accomplished by thin-layer and gas-liquid chromatography. Eighty-five percent of the samples had residues of DDT with an average of 0.13 ppm. DDD residues were found in 11 percent of the samples, DDE in 38 percent, dieldrin in 38 percent, and lindane in 15 percent, with an average of 0.07, 0.04, 0.03, and 0.04 ppm, respectively. Heptachlor, heptachlor epoxide, and aldrin were not detected in concentrations above the limits of the experiment set by the investigators.

Haas, Wilfried. VERLUSTE VON VÖGELN UND SÄUGERN AUF AUTOSTRASSEN. [MORTALITY OF BIRDS AND MAMMALS ON THE HIGHWAYS.] Ornithol. Mitteil. 16(12): 245-250. Dec. 1964. In German. WR 126: 3

Lists are given of bird and mammal mortalities on European highways observed during 1956-1963 on more than 46,000 km of travel. Totals of 1850 birds of 97 spp. and 832 mammals of 22 spp.

Heath, Robert G., and Richard M. Prouty. TRIAL MONITORING OF PESTICIDES IN WINGS OF MALLARDS AND BLACK DUCKS. Bull. Environmental Contamination & Toxicol. 2(2): 101-110. Mar.-Apr. 1967. WR 126: 3

[Patuxent Wildl. Res. Center, Laurel, Md.] Conclusions: The results of the trial monitoring indicate that mallard and black duck wings are satisfactory monitoring media, that pesticidal residues were present in all pools, and that due to the variability in levels, the pool size should not be reduced from 25 wings unless there is a wing shortage. Differences in DDE residues between adult and immature wings of both species indicate that the age classification should be maintained in sampling. For analytical reasons, State identification will be necessary in nation-wide monitoring even though significant residue differences between New York and Pennsylvania wings were not demonstrated.

Ikeda, Shinjiro. [AN EXPERIMENT ON THE EFFECTS OF INSECTICIDES ON WILD BIRDS AND BEASTS. (LETHAL DOSE TESTS WITH EPN AND BHC).] Bull. Govt. Forest Expt. Sta. (Tokyo) no. 186. p. 135-148. Mar. 1966. In Japanese with English résumé. WR 126: 3

[Govt. Forest Expt. Sta., Tokyo, Japan.] Laboratory tests of BHC and EPN on tree sparrow, turtle dove, plumed egret, great white egret, green pheasant, Japanese quail, and Japanese mink (Mustela sibirica itatsi).

Jefferies, D. J. THE DELAY IN OVULATION PRODUCED BY pp′-DDT AND ITS POSSIBLE SIGNIFICANCE IN THE FIELD. Ibis 109(2): 266-272, 1 fig. Apr. 1967. WR 126: 3

[Monks Wood Expt. Sta., Abbots Ripton, Huntingdon, England.] Summary: A significant correlation between pp′-DDT intake by the female Bengalese finch Lonchura striata and delay in ovulation is reported. Linked with earlier work showing that pp′-DDT can cause inhibition of the testicular growth and secondary sexual characters of cockerels, it is deduced that in this context the site of action of the pp′-DDT is probably the pituitary or hypothalamus. Inhibition of the secretion of the pituitary hormones could explain the reported recent increase in egg breakages by predatory birds. It is also probable that organochlorine pesticides are responsible for the late breeding of several species of birds reported in the early nineteen-sixties. This could affect a population in that large sublethal doses which double the time for egg laying could cause a double-brooded bird to be out of phase with the food supply for the late broods.

Martens, Jochen. GEFÄHRDUNG DER VOGELWELT DURCH KRAFTWAGEN. [DANGERS TO BIRDS FROM AUTOMOBILES.] Ornithol. Mitteil. 14(12): 221-222. Dec. 1962. In German. WR 126: 4
[Eulerstrasse 6B, Stuttgart-Rohr, Germany.]

Musseh1, Thomas W., and Robert B. Finley, Jr. RESIDUES OF DDT IN FOREST GROUSE FOLLOWING SPRUCE BUDWORM SPRAYING. J. Wildl. Mgmt. 31(2): 270-287, 2 figs. Apr. 1967. WR 126: 4
[Mont. Fish & Game Dept., Bozeman.] Abstract: Investigation of the nature and significance of DDT residues in blue grouse (Dendragapus obscurus) was undertaken in western Montana in 1963 following aerial spraying of 0.5 lb DDT per acre for forest insect control. The study was conducted primarily on an established 800-acre blue grouse research area included in a 123,700-acre spruce budworm (Choristoneura fumiferana) control project on the Bitterroot National Forest. An effort was made to ascertain the chemical, physiological, and ecological factors influencing the magnitude, distribution, and persistence of DDT and its residues in blue grouse tissues. Samples from 126 grouse collected from May, 1963, until May, 1965, were analyzed for DDT and metabolites. Total residues in fat of 26 blue grouse taken the first postspray summer and fall ranged from 1.5 to 280 ppm. Residue concentrations (up to 80 ppm) appeared in fat within 7 days after spraying. Maximum absolute amounts of residues were noted in blue grouse 9 to 10 months postspray. Residues were present in eggs and progeny 1 year after spraying. Residues in fatty tissues nearly 2 years postspray exceeded prespray levels. Significant effects of residues (after 0.5 lb DDT spraying) on grouse survival or productivity were not demonstrated. Notably heavier residues were found in forest grouse adjacent to an Idaho area sprayed with 1 lb DDT per acre. Knowledge of the magnitude of residues of DDT in forest wildlife resulted in U.S. Food and Drug Administration recommendations that would curtail hunting and game utilization on DDT-sprayed areas.

Stickel, Lucille F., William H. Stickel, and R. Christensen. RESIDUES OF DDT IN BRAINS AND BODIES OF BIRDS THAT DIED ON DOSAGE AND IN SURVIVORS. Science 151(3717): 1549-1551. 25 Mar. 1966. WR 126: 4
[Patuxent Wildl. Res. Center, Laurel, Md.] Abstract: Residues of 1,1,1-trichloro-2,2-bis(p-chlorophenyl)-ethane (DDT) and 1,1-dichloro-2,2-bis(p-chlorophenyl)-ethane (DDD) in brains of cowbirds (Molothrus ater) killed by dietary dosage of DDT were similar in birds that died after various lengths of time on dosage and in birds that died of delayed effects after as much as 40 days on clean food. Residues of DDT and DDD, but not of 1,1-dichloro-2,2-bis-(p-chlorophenyl)-ethylene (DDE), were much lower in survivors 112 days after dosage. The relative importance of DDT and DDD in brains could not be determined, but DDE appeared not to be critical. Residues in brains of cowbirds were similar to those reported for robins, sparrows, eagles, and white rats. Residues in livers and carcass remainders (with the possible exception of DDD in the liver) appeared unsuitable for diagnosing the cause of death.

Woodwell, George M., Charles F. Wurster, Jr., and Peter A. Isaacson. DDT RESIDUES IN AN EAST COAST ESTUARY: A CASE OF BIOLOGICAL CONCENTRATION OF A PERSISTENT INSECTICIDE. Science 156(3776): 821-824. 12 May 1967. WR 126: 4
[Brookhaven Natl. Lab., Upton, N.Y.] Abstract: DDT residues in the soil of an extensive salt marsh on the south shore of Long Island averaged more than 13 pounds per acre (15 kilograms per hectare); the maximum was 32 pounds per acre (36 kilograms per hectare). A systematic sampling of various organisms from the vicinity showed concentrations of DDT increasing with trophic level through more than three orders of magnitude from 0.04 part per million in plankton to 75 parts per million in a ring-billed gull. Highest concentrations occurred in scavenging and carnivorous fish and birds, although birds had 10 to 100 times more than fish. These concentrations approach those in animals dying from DDT poisoning, which suggests that many natural populations in this area are now being affected, possibly limited, by DDT residues. Similar concentrations have been reported elsewhere in North America.

WILDLIFE--POPULATIONS & FLUCTUATIONS

Kirikov, S. V. [CHANGES IN THE FAUNA OF THE NATURAL REGIONS OF THE USSR (XIII-XIXTH CENTURIES). STEPPE AND FOREST-STEPPE BELTS.] Akad. Nauk SSSR (Moscow). 175 p. 1959. Price 8 rubles. [From Biol. Abstr. 47(15), 1966, from Referat. Zhur., Biol., 1960, no. 70999K. Transl. of Russian abstr.] WR 126: 5

WILDLIFE--TECHNIQUES

Larin, B. A. [DETERMINING THE NUMBER OF ANIMALS PRESENT BEFORE HUNTING.] Sbornik Nauch.-Tekh. Inform. Vses. Nauch.-Issled. Inst. Zhivotn. Syr'ya Pushniny 10: 38-42. 1964. [From Biol. Abstr. 47(22), 1966, from Referat. Zhur., Biol., 1965, no. 11239. Transl. of Russian abstr.] WR 126: 5

WILDLIFE--MANAGEMENT & RESEARCH, GENERAL

Roth, H. H. GAME UTILIZATION IN RHODESIA IN 1964. Mammalia 30(3): 397-424. Sept. 1966. [From J. Mammal. 48(2), 1967.] WR 126: 5

WILDLIFE--ECONOMIC & OTHER VALUES

Smith, M. W. OBSERVATIONS OF FISH-EATING BIRDS AND MAMMALS AT CRECY LAKE, NEW BRUNSWICK OVER A 12-YEAR PERIOD. Canadian Fish Culturist 39: 41-46. Jan. 1967. WR 126: 5

[Fisheries Res. Board Canada Biol. Sta., St. Andrews, New Brunswick.] Annual sightings and kills of aquatic birds and mammals known to have eaten trout, records of fish found in stomachs of birds killed, and annual sightings of aquatic birds not fish-eaters or not known to have eaten trout at this 50-acre lake are tabulated.

WILDLIFE--FOOD HABITS & TECHNIQUES

Robel, Robert J., and William R. Harper. ENERGY CONTENT AND RETENTION BY RAGWEED AND SUNFLOWER SEEDS DURING FALL AND WINTER. Trans. Kans. Acad. Sci. 68(3): 401-405. 1965. WR 126: 5

[Kans. State Univ., Manhattan.] Seeds of annual sunflower and giant ragweed were sampled during October 1964 to February 1965. Analysis of these seeds for energy content disclosed no significant change during the 4-month period. Energy values of these native seeds were approximately 25 percent greater than the energy content of seeds of domestic plants commonly utilized in habitat development programs for wildlife.--R. J. Robel.

WILDLIFE--PREDATION, CROP DAMAGE, CONTROL

Fanta, B. [SCRAPING THE BARK OF SPRUCE TREES AS A PROTECTION MEANS AGAINST INJURIES BY WILDLIFE.] Lesnicka Prace 45(6): 258-260. 1966. [From Bibliog. Agr. 31(1), 1967. In Czech.] WR 126: 5

Hauer, L., and Gy Lengyel. [WILDLIFE DAMAGE CONTROL BY MECHANIZED APPLICATION OF BLOOD ALBUMIN PREPARATIONS.] Erdesz. Kutatasok 61(1/3): 203-212. 1965. [From Bibliog. Agr. 30(10), 1966. In Hungarian with German summ.] WR 126: 5

Kowalski, J., and J. Skabara. [ESTIMATION OF THE RANGE OF WINTER INJURIES CAUSED BY WEST EUROPEAN STAG IN FIR STANDS.] Szkola Glowna Gosp. Wiejsk Les. 8: 93-107. 1966. [From Bibliog. Agr. 31(3), 1967. In Polish with English summ.] WR 126: 5

Marsh, Rex E., Ronald E. Cole, and Walter E. Howard. LABORATORY TESTS ON THE EFFECTIVENESS OF PROLIN MOUSE TUBES. J. Wildl. Mgmt. 31(2): 342-344. Apr. 1967. WR 126: 6

[Univ. Calif., Davis.] Abstract: The Prolin mouse tube is an expendable weather-resistant cardboard bait station. The inner surface of the tube is lined with approximately 1 ounce (28.4 g) of grain treated with 0.05 percent Prolin (anticoagulent rodenticide), affixed with an edible glue. The tube was designed to control meadow mice (Microtus) in orchards. Effectiveness acceptability and lethality) of the tubes was determined by laboratory and pen tests for eight species of small California rodents. Of the mixture of grains within the tubes, the mice preferred oats and wheat to corn.

Moore, William H., and Frank M. Johnson. NATURE OF DEER BROWSING ON HARDWOOD SEEDLINGS AND SPROUTS. J. Wildl. Mgmt. 31(2): 351-353. Apr. 1967. WR 126: 6

[SE Forest Expt. Sta., Ft. Myers, Fla.] Abstract: This study was conducted in southern Appalachian cove hardwoods from 1960-63. Three years after a heavy commercial cut, seedlings were almost four times as numerous as sprouts, yet received only one-fourth the use by white-tailed deer (Odocoileus virginianus): 3,520 seedlings received 14 percent use and 995 sprouts received 57 percent use. Preference seems more closely related to growth rate or succulence than to plant species. It was apparent that much more forage was produced than utilized.

Palm, C. E., chairman. SCIENTIFIC ASPECTS OF PEST CONTROL / A SYMPOSIUM ARRANGED AND CONDUCTED BY THE NATIONAL ACADEMY OF SCIENCES, NATIONAL RESEARCH COUNCIL AT WASHINGTON, D.C., FEBRUARY 1-3, 1966. Natl. Acad. Sci.--Natl. Res. Council Publ. 1402. xi + 470 p. 1966. $5.00. WR 126: 6

A report to the public of the present status of knowledge on pest control, the degree to which control programs are achieving their objectives, and the problems that need further attention. This report also provides a discussion of effective methods of pest control, the design and use of pest-control equipment, preventive measures, and integrated systems of control. The following papers are included: Understanding our changing physical environment, Colin M. MacLeod; The complexity of pest control in the environment, LaMont C. Cole; Pest control--its role in the United States economy and in the world, A. H. Moseman; Advances, problems, and the future of insect control, E. H. Smith; Progress in the battle against plant disease, George L. McNew; The scientific basis of weed control, Boysie E. Day; Vertebrates as pests: a point of view, Robert A. McCabe; Electromagnetic and sonic energy for pest control, S. O. Nelson and J. L. Seubert; Physical and engineering aspects of pest control, Walter M. Carleton and Ross D. Brazee; Preventive pest-control measures, E. P. Reagan; Integrated control systems, D. A. Chant; Persistence and degradation of pesticides in the environment, E. P. Lichtenstein; Metabolism and fate of pesticides in plants and animals, Robert L. Metcalf; Biological magnification of pesticides, Eldridge G. Hunt; Evolution of resistance in hosts and pests, James F. Crow; Advances in analytical detection of pesticides, Francis A. Gunther; Monitoring the agricultural use of pesticides, J. W. Gentry; Monitoring food and people for pesticide content, Wayland J. Hayes, Jr.; Monitoring wildlife for pesticide content, E. H. Dustman; Industry's role in the development of pesticides, R. H. Wellman; The federal committee on pest control, Robert J. Anderson; Function of state committees on pest control, H. B. Petty, Jr.; Official registration of pesticides, Robert J. Anderson; The role of the Food and Drug Administration in regulation of pesticides, J. K. Kirk; Pest control and human welfare, Jamie L. Whitten; Public policy and pest control, Stewart L. Udall; Human health and pest control, J. M. Barnes; New horizons and the outlook for pest control, E. F. Knipling.

Schroeder, Max H. GOPHACIDE, A CANDIDATE FOR CONTROL OF ORD'S KANGAROO RAT. J. Wildl. Mgmt. 31(2): 339-341. Apr. 1967. WR 126: 7

[Denver Wildl. Res. Center, Denver, Colo.] Abstract: Gophacide [O,O bis (p-chlorophenyl) acetimidoylphosphoramidothioate] was evaluated as a control agent for Ord's kangaroo rat (Dipodomys ordii) at 11 test sites near Roggins, Weld County, Colorado. Three baiting methods reduced den-system activity 88.5 to 100 percent. Tests conducted with untreated grain indicated that the animal's bait-gathering efficiency is high. No secondary hazards nor dangers to nontarget species were observed.

Ward, A. Lorin, Paul L. Hegdal, Voit B. Richens, and Howard P. Tietjen. GOPHACIDE, A NEW POCKET GOPHER CONTROL AGENT. J. Wildl. Mgmt. 31(2): 332-338. Apr. 1967. WR 126: 7

[Denver Wildl. Res. Center, Denver, Colo.] Abstract: Gophacide, also known as Bayer 38819 and DRC-714, has been successfully tested as a pocket gopher control agent. Grain baits containing 0.1 to 0.2 percent Gophacide, properly distributed with a mechanical burrow-builder or hand bait-dispenser, gave good control, often 90 percent or better, of northern (Thomomys talpoides), plains (Geomys bursarius), southern (Thomomys umbrinus), and valley pocket gophers (Thomomys battae). As used, hazards to other animals are slight; baits are placed in subsurface burrows and pocket gophers die there.

WETLANDS & WILDLIFE

Quarterman, K. D., chairman. PROCEEDINGS OF NORTHEASTERN CONFERENCE ON MOSQUITO SUPPRESSION AND WILDLIFE MANAGEMENT, APRIL 20-22, 1966. ii + 123 p. [1966.] Available at $2.50 per copy from Dr. Donald Weidhaas, Secy., Natl. Mosquito Control--Fish & Wildl. Mgmt. Coordination Com., Plant Industry Sta., USDA, Beltsville, Md. WR 126: 7

Most of the papers presented at the four sessions dealt to some degree with wildlife: Public interests in mosquito control and wildlife resources, K. D. Quarterman; Community interests in mosquito control--health, John R. Bagby; Community interests in mosquito control--economic, Daniel M. Jobbins; Community interests in wildlife--economic and commercial, Ralph A. Schmidt; Mosquito control and wildlife, Roland C. Clement; Fish and wildlife problems encountered in mosquito control, W. C. McDuffie; Source reduction in mosquito control in the northeast, LeRoy Kinsey; Pesticides in mosquito control, Herbert F. Schoof; Progress toward the utilization of pathogens, attractants, and sexual sterilization for mosquito control, Carroll N. Smith; Wildlife problems in mosquito control in Massachusetts, Robert L. Armstrong; Wildlife problems in mosquito control in New York, Donald L. Collins; Wildlife problems in mosquito control in Maryland, George S. Langford; Mosquito problems encountered in fish and wildlife management, Daniel A. Poole; The value of the northeast coastal marshes for fish and shellfish, Albert Swartz; The value of the northeast coastal marshes for wildlife, C. E. Addy; The value of interior wetlands for fish and wildlife, W. R. DeGarmo; Wildlife, pesticides, and mosquito control, William H. Stickel; Mosquito problems in fish and wildlife management in New York, A. S. Taormina; Mosquito problems in fish and wildlife management in New Jersey, L. G. McNamara and Fred Ferrigno; Mosquito problems in fish and wildlife management in Massachusetts, William Tompkins; Coordination can be the answer, E. A. Seaman; The activities of the Federal committee on pest control, W. M. Upholt; Coordination in Utah, Don M. Rees, Jessop B. Low, and John Nagel; Coordination in the northern gulf area, Frederick Deiler; Activities of the Southwest Florida Conservation Clearinghouse, T. Wayne Miller, Jr.

FARMLAND & WILDLIFE

Snow, D. W., and H. Mayer-Gross. FARMLAND AS A NESTING HABITAT. Bird Study 14(1): 43-52. Mar. 1967. WR 126: 8

Comparisons of nesting success, clutch size and fledging success of seven spp. on farmland, all "rural," all "suburban/urban" and woodland habitats were made but "no immediate conclusions can be drawn from the data presented."

RANGELAND & WILDLIFE

Mueggler, Walter F. TREES, SHRUBS AND ELK. Idaho Wildl. Rev. 19(4): 12-13, illus. Jan.-Feb. 1967. WR 126: 8

[Intermountain Forest & Range Expt. Sta., Bozeman, Mont.] Popular account of range management for elk.

MAMMALS--GENERAL

Bothma, J. du P. RANDOM OBSERVATIONS ON THE FOOD HABITS OF CERTAIN CARNIVORA (MAMMALIA) IN SOUTHERN AFRICA (AARDWOLF, AFRICAN CIVET, SIDE-STRIPED JACKAL, LYNX, BLACK-FOOTED CAT). Fauna Flora (Transvaal) 16: 16-22, illus. 1965. [From Biol. Abstr. 47(22), 1966.] WR 126: 8

Gould, Edwin. EVIDENCE FOR ECHOLOCATION IN THE TENRECIDAE OF MADAGASCAR. Proc. Am. Phil. Soc. 109(6): 352-360, illus. 1965. [From Biol. Abstr. 47(18), 1966.] WR 126: 8

[Johns Hopkins Univ., Baltimore, Md.]

Krivosheev, V. G. [BIOFAUNISTIC MATERIALS ON SMALL MAMMALS IN THE TAIGA LOWLANDS OF THE KOLYMA.] In: (Studies of the ecology, population dynamics and diseases of Yakut mammals.) Nauka (Moscow). p. 175-236. 1964. [From Biol. Abstr. 47(24), 1966, from Referat. Zhur., Biol., 1965, no. 6I133. Transl. of Russian abstr.] WR 126: 8

Pucek, Michalina. POLISH THERIOLOGICAL BIBLIOGRAPHY, 1964-1966. Acta Theriologica 29: 577-593. 30 Dec. 1966. WR 126: 8

Sapozhenkov, Yu. F. [REPRODUCTION OF MAMMALS FOUND IN THE KARA KUM DESERT.] Zool. Zhur. 44(6): 896-901. 1965. [From Biol. Abstr. 47(20), 1966. In Russian with English summ.] WR 126: 8

[Kostroma Pedagog. Inst., Kostroma, USSR.]

Sapozhenkov, Yu. F. [SPECIFIC ZOOGEOGRAPHICAL FEATURES OF THE PSAMMOPHILOUS MAMMALS FOUND IN THE KARA-KUM DESERT.] Zool. Zhur. 44(11): 1701-1705. 1965. [From Biol. Abstr. 47(24), 1966. In Russian with English summ.] WR 126: 8

[Kostroma Pedagog. Inst., Kostroma, USSR.]

Skiptsov, V. G. [RELATIONSHIPS OF ONDATRA AND DESMAN.] Zool. Zhur. 45(7): 1112-1114. 1966. [From J. Mammal. 48(2), 1967. In Russian with English summ.] WR 126: 8

Tyurin, P. S. [INTRODUCTION OF WILD ANIMALS INTO KIRGHIZIA.] In: (Love and conserve nature in Kirghizia.) (Frunze). p. 65-70. 1964. [From Biol. Abstr. 47(22), 1966, from Referat. Zhur., Biol., 1965, no. 1I225. Transl. of Russian abstr.] WR 126: 8

Information about introduction of the skunk, raccoon, Siberian weasel (Mustela sibirica), raccoon-dog (Nyctereutes procyonoides), muskrat (Ondatra zibethica), Sciurus vulgaris exalbidus, mink (Putorius vison), and nutria.

Voronov, N. P. [THE EFFECT OF BURROWING BY MAMMALS ON FOREST LIFE.] Izvest. Kazansk. Fil. Akad. Nauk SSSR, Ser. Biol. Nauk 6: 69-80. 1958. [From Biol. Abstr. 47(18), 1966, from Referat. Zhur., Biol., 1960, no. 53744. Transl. of Russian abstr.] WR 126: 8

MAMMALS--TECHNIQUES

Andrzejewski, Roman, Gabriela Bujalska, Lech Ryszkowski, and Jan Ustyniuk. ON A RELATION BETWEEN THE NUMBER OF TRAPS IN A POINT OF CATCH AND TRAPPABILITY OF SMALL RODENTS. Acta Theriologica 11(13): 343-349, 2 figs. 15 Dec. 1966. In English with Polish summ. WR 126: 9
[Inst. Ecol. Polish Acad. Sci., Warsaw, Poland.]

Gebczyńska, Zofia. ESTIMATION OF RODENT NUMBERS IN A PLOT OF QUERCETO-CARPINETUM FOREST. Acta Theriologica 11(11): 315-328, 6 figs. 15 Dec. 1966. In English with Polish summ. WR 126: 9
[Mammals Res. Inst., Polish Acad. Sci., Białowieża, Poland.]

Grodziński, Władysław, Zdzisław Pucek, and Lech Ryszkowski. ESTIMATION OF RODENT NUMBERS BY MEANS OF PREBAITING AND INTENSIVE REMOVAL. Acta Theriologica 11(10): 297-314, 6 figs. 15 Dec. 1966. In English with Polish summ. WR 126: 9
[Jagiellonian Univ., Kraków, Poland.] Abstract: The aim of investigations was to elaborate an accurate and labour-saving method of estimating the numbers of small rodents. Each of 8 two-week series of captures consisted of: (1) a seven-day period of prebaiting the rodents on an area of 5.76 ha, over which a grid of 256 points with bait was arranged and (2) a seven-day period of intensive removal of rodents by means of snap-traps, two of which are set on each point. No correlation was found between the number of baits consumed and the number of rodents on a given point. From 78-100 per cent of all rodents captured over a seven-day period were removed by the fifth day. Differences were found in the rate of removal of different species of rodents and of marked and unmarked individuals of the same species. Estimate of population numbers was made by the regression method, obtaining satisfactory results in 17 cases out of 18 possibles. This method is recommended, but it is suggested that the prebaiting and removal periods should be shortened to five days each.

Haarr, Al. ANODIZING BAT BANDS. Bat Banding News 4(4): 26-27, 1 fig. Oct. 1963. WR 126: 9
[50 Clover Drive, Delmont, Pa.]

Heidt, Gary A., Rollin H. Baker, and Ian O. Ebert. MAGNETIC DETECTION OF SMALL MAMMAL ACTIVITY. J. Mammal. 48(2): 330-331. May 1967. WR 126: 9
[Mich. State Univ., East Lansing.] "A simple technique for monitoring the movements of small mammals by the use of magnetic detection. Basically this system consists of 'tagging' the mammal with a magnet and placing a detector over the mammal's runway. When the tagged mammal passes under the detector, this passage activates a remotely-placed event recorder.... Preliminary results indicate that these magnetic detectors can be used successfully to obtain information on small mammal [Microtus pennsylvanicus] activity in little-disturbed natural environments."

Jewell, P. A., and P. J. Fullagar. BODY MEASUREMENTS OF SMALL MAMMALS: SOURCES OF ERROR AND ANATOMICAL CHANGES. J. Zool. (London) 150(4): 501-509, 1 fig. + 1 pl. Dec. 1966. WR 126: 9
[CSIRO, Canberra, Australia.]

Ryszkowski, Lech, Roman Andrzejewski, and Kazimierz Petrusewicz. COMPARISON OF ESTIMATES OF NUMBERS OBTAINED BY THE METHODS OF RELEASE OF MARKED INDIVIDUALS AND COMPLETE REMOVAL OF RODENTS. Acta Theriologica 11(12): 329-341, 2 figs. 15 Dec. 1966. In English with Polish summ. WR 126: 9
[Inst. Ecol., Polish Acad. Sci., Warsaw, Poland.] Abstract: The number of marked rodents present on a given day was estimated, taking into consideration not only their capture on that day, but also making use of information on their captures in preceding and following days (Calendar of catches method). These estimated numbers were compared with those estimated by means of the regression method when carrying out complete removal of the rodents in the same area. The mean difference in estimated numbers for resident individuals was 20.2%, and for all individuals caught in the study area 25.6%. It was demonstrated that there were differences in trappability among individuals from the same population and that entry of other individuals from the surrounding area takes place into the capture area.

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Smith, Donald A. NEW BANDING TOOLS. Bat Res. News (formerly Bat Banding News) 5(3): 22-24, [3 figs.]. July 1964. WR 126: 10
[Carleton Univ., Ottawa, Ontario, Canada.] Band-openers and band-closers are described and figured.

Sowls, Lyle K., and Raymond E. Schweinsburg. AN IMPROVED PROPULSION SYSTEM FOR SHORT-RANGE PROJECTION OF IMMOBILIZATION DARTS. J. Wildl. Mgmt. 31(2): 345-346, 1 fig. Apr. 1967. WR 126: 10
[Ariz. Coop. Wildl. Res. Unit, Tucson.] Abstract: An adapter and pipe were fitted onto the barrel of a .38 caliber revolver. Powered with a shotshell primer fitted into a modified cartridge case, the device was used to fire 2-cc darts to immobilize captive and trapped collared peccaries (Pecari tajacu). Performance and impact were uniform up to about 10 ft and there was no injury to the animals. The mechanism can be made by a machinist from materials easily available.

Tarasov, S. A. [DETERMINATION OF FIELD-VOLE AGE BY THE ROENTGEN TECHNIQUE.] Zool. Zhur. 45(8): 1247-1250. 1966. [From J. Mammal. 48(2), 1967. In Russian with English summ.] WR 126: 10

Van Citters, Robert L., William S. Kemper, and Dean L. Franklin. BLOOD PRESSURE RESPONSES OF WILD GIRAFFES STUDIED BY RADIO TELEMETRY. Science 152 (3720): 384-386, 1 fig. 15 Apr. 1966. WR 126: 10
[Univ. Wash., Seattle.] Abstract: Blood pressure was telemetered from transducers chronically implanted in the carotid arteries of two adult, wild, male giraffes captured and released near Kiboko, Kenya. Cerebral perfusion pressure ranged from 280/180 mm-Hg while the animal was lying with its head on the ground to 125/75 mm-Hg when it was standing erect; it varied between these levels during spontaneous activity such as walking, grazing, and running.

Walley, Harlan. BAT PRONGS. Bat Banding News 4(4): 28-29, 5 figs. Oct. 1963. WR 126: 10
[312 East 4th St., Sandwich, Ill.] Description for the construction of effective tongs to remove bats from crevices.

MAMMALS--FAUNAS & MANUALS

Baker, Rollin H. DISTRIBUTION OF RECENT MAMMALS ALONG THE PACIFIC COASTAL LOWLANDS OF THE WESTERN HEMISPHERE. Systematic Zool. 16(1): 28-37, 1 fig. 17 Mar. 1967. WR 126: 10
[Mich. State Univ., East Lansing.]

Comins, Derek M. THE DISTRIBUTION OF THE MAMMALS OF THE DISTRICTS OF EAST LONDON AND KING WILLIAM'S TOWN IN RELATION TO THE VEGETATION PATTERN. Eastern Cape Nat. (22): 15-18. Nov. 1964. [From J. Mammal. 48(2), 1967.] WR 126: 10

Ellerman, J. R., and T. C. S. Morrison-Scott. CHECKLIST OF PALAEARCTIC AND INDIAN MAMMALS 1758 TO 1946. Trustees British Museum (Nat. Hist.) (London). 810 p. 1966. [From Biol. Abstr. 47(24), 1966.] WR 126: 10
Second edition.

Felten, Heinz, and Gerhard Storch. INSEKTENFRESSER UND NAGETIERE AUS N-GRIECHENLAND UND JUGOSLAVIEN (MAMMALIA: INSECTIVORA UND RODENTIA). [INSECTIVORA AND RODENTS FROM NORTHERN GREECE AND YUGOSLAVIA (MAMMALIA: INSECTIVORA AND RODENTIA).] Senckenbergiana Biol. 46(5): 341-367, illus. 1965. [From Biol. Abstr. 47(21), 1966. In German.] WR 126: 10
[Froschungs-Inst. Senckenberg, Frankfurt/Main, Germany.]

Foster, J. B., and A. Duff-Mackay. KEYS TO THE GENERA OF INSECTIVORA, CHIROPTERA AND RODENTIA OF EAST AFRICA. J. East Africa Nat. Hist. Soc. Natl. Mus. 25(3): 189-204. Jan. 1966. [From J. Mammal. 48(2), 1967.] WR 126: 11

Kuhn, Hans-Jurg. A PROVISIONAL CHECKLIST OF THE MAMMALS OF LIBERIA. Senckenbergiana Biol. 46(5): 321-340. 1965. [From Biol. Abstr. 47(21), 1966.] WR 126: 11
[Univ. Frankfurt, Frankfurt, Germany.]

Medway, Lord. MAMMALS OF BORNEO: FIELD KEYS AND AN ANNOTATED CHECKLIST. Malaysia Printers Ltd. (Singapore). 193 p. 1965. [From J. Mammal. 48(2), 1967.] WR 126: 11

MAMMALS--POPULATIONS, HOME RANGES, COMMUNITIES

Davidson, Mavis M. CHANGES IN WILD MAMMAL POPULATIONS IN CANTERBURY. New Zealand Forest Serv. Inform. Ser. 52: 7-51, illus. 1965. [From Biol. Abstr. 47(17), 1966.] WR 126: 11
[New Zealand Forest Serv., Wellington.]

Nikitina, N. A., and L. D. Korchagina. [THE NATURE OF THE USE OF HOME RANGE BY SOREX WITH THE HELP OF MARKING.] Bull. Moscow Obshch. Ispit. Prirody (Biol.) 71(1): 26-31, illus. 1966. [From Biol. Abstr. 47(21), 1966. In Russian.] WR 126: 11

MAMMALS--PARASITES & DISEASES

Bejsovec, Jaroslav. VYZNAM DRAVCU, SOV, KRKAVCOVITYCH A LISKY OBECNE PRO ROZNOS ENDOPARAZITU UZITKOVYCH ZVIRAT A MYSOVITYCH HLODAVCU. [THE IMPORTANCE OF RAPTORIAL BIRDS, OWLS, ROOK AND THE COMMON FOX FOR THE TRANSMISSION OF ENDOPARASITES OF PRODUCTION ANIMALS AND SMALL RODENTS.] Cesk. Parazitol. 12: 81-91. 1965. [From Biol. Abstr. 47(17), 1966. In Czech with English summ.] WR 126: 11
[Vysoka Sk. Zemcdel., Prague, Czechoslovakia.]

Forrester, Donald J., Gabriele M. Forrester, and Clyde M. Senger. A CONTRIBUTION TOWARD A BIBLIOGRAPHY ON THE LUNG NEMATODES OF MAMMALS. J. Helminthol. 40(suppl. 1966): 1-122. 1966. WR 126: 11
[Univ. Calif., Davis.] For each of the 15 listed genera references appear alphabetically by author under the following subjects: distribution, taxonomy and morphology, life history, pathology, treatment and control, immunology, relationships with other diseases, and general and miscellaneous.

Kinsella, John M., and Donald L. Pattie. ECTOPARASITES OF SMALL MAMMALS OF THE ALPINE BEARTOOTH PLATEAU, WYOMING. Canadian J. Zool. 45(2): 233-235. Mar. 1967. WR 126: 11
[Univ. Mont., Missoula.]

Mitchell, Carl J., Harry Hoogstraal, George B. Schaller, and Juan Spillet. ECTOPARASITES FROM MAMMALS IN KANHA NATIONAL PARK, MADHYA PRADESH, INDIA, AND THEIR POTENTIAL DISEASE RELATIONSHIPS. J. Med. Entomol. (Hawaii) 3(2): 113-124. Aug. 1966. [From J. Mammal. 48(2), 1967.] WR 126: 11

Mohammed, Abdel Hafez Helmy, and Mohammed F. Saoud. A GENERAL SURVEY OF THE BLOOD PARASITES OF SOME EGYPTIAN MAMMALS. Proc. Egyptian Acad. Sci. 18: 51-58. 1964. [From J. Mammal. 48(2), 1967.] WR 126: 11

Twigg, G. I., and C. M. Cuerden. LEPTOSPIROSIS IN BRITISH MAMMALS: INITIAL SURVEY RESULTS. J. Zool. (London) 150(4): 494-498. Dec. 1966. WR 126: 11
[Royal Holloway Coll., Englefield Green, Surrey, England.]

Adolf, T. A. [ON THE REPRODUCTIVE BIOLOGY OF ERINACEUS EUROPEUS L.] Zool. Zhur. 45(7): 1108-1111. 1966. [From J. Mammal. 48(2), 1967. In Russian with English summ.] WR 126: 12

Baker, Robert J., and James L. Patton. KARYOTYPES AND KARYOTYPIC VARIATION OF NORTH AMERICAN VESPERTILIONID BATS. J. Mammal. 48(2): 270-286, 15 figs. May 1967. WR 126: 12

[Univ. Ariz., Tucson.] Abstract: Karyotypes of 32 species of North American vespertilionid bats are described. Individual, population, subspecific, specific, and generic karyotypic variation are discussed. The use of karyotypes as a taxonomic tool and phylogenetic indicator in bats is discussed.

Brosset, André. LA BIOLOGIE DES CHIROPTÈRES. [THE BIOLOGY OF THE BATS.] Collection 3, Les grands problèmes de la biologie. Masson & Cie. (Paris). 240 p. 1966. [From J. Mammal. 48(2), 1967. In French.] WR 126: 12

Brosset, A., and C. Delamare Deboutteville. LA RÉGIME ALIMENTAIRE DU VESPERTILION DE DAUBENTON MYOTIS DAUBENTONI. [THE FEEDING HABITS OF MYOTIS DAUBENTONI.] Mammalia 30(2): 247-251. June 1966. [From J. Mammal. 48(1), 1967. In French with English summ.] WR 126: 12

Dalland, John I. HEARING SENSITIVITY IN BATS. Science 150(3700): 1185-1186, 1 fig. 26 Nov. 1965. WR 126: 12

[Princeton Univ., Princeton, N.J.] Abstract: Absolute hearing thresholds for two bats were determined by an operant conditioning technique. Pure tones ranging from 2.5 to 100 kilocycles per second were perceived by a single Eptesicus fuscus. Its maximum sensitivity was on the order of 68 decibles below 1 dyne per square centimeter and occurred at 20 kc/sec. Maximum sensitivity for a single Myotis lucifugus was about 64 db below 1 dyne/cm and occurred at 40 kc/sec. The Myotis clearly heard a tone of 120 kc/sec but gave no evidence of hearing below 10 kc/sec.

Davis, Wayne H., and James W. Hardin. HOMING IN LASIONYCTERIS NOCTIVAGANS. J. Mammal. 48(2): 323. May 1967. WR 126: 12

[Univ. Ky., Lexington.] Minimum distance traveled in homing was 107 miles.

Ealey, E. H. M. ANESTHESIA IN THE ECHIDNA, TACHYGLOSSUS ACULEATUS. J. Mammal. 48(2): 316. May 1967. WR 126: 12

[Monash Univ., Clayton, Victoria, Australia.]

Easterla, David A. BLACK RAT SNAKE PREYS UPON GRAY MYOTIS AND WINTER OBSERVATIONS OF RED BATS. Am. Midland Nat. 77(2): 527-528. Apr. 1967. WR 126: 12

[Northwest Mo. State Coll., Maryville.]

Edgerton, Harold E., Paul F. Spangle, and James K. Baker. MEXICAN FREETAIL BATS: PHOTOGRAPHY. Science 153(3732): 201-203, 3 figs. 8 July 1966. WR 126: 12

[Mass. Inst. Technol., Cambridge.] Abstract: A method is described for photographing bats or other rapidly moving objects as they intercept in space a particular area which is covered by a camera system. Photographs taken at Carlsbad Caverns show that the tail membrane of the Mexican freetail bat is extended when the animal is in flight.

Gaisler, Jiri. THE ECOLOGY OF LESSER HORSESHOE BAT (RHINOLOPHUS HIPPOSIDEROS HIPPOSIDEROS BECHSTEIN, 1800) IN CZECHOSLOVAKIA. I. Vestnik Cesk. Spolecnosti Zool. 27(3): 211-233, illus. 1963. [From Biol. Abstr. 47(18), 1966.] WR 126: 12

[Lab. Vert. Zool., Czech. Acad. Sci., Brno, Czechoslovakia.]

Heymer, Armin. RÉSULTATS DU BAGUAGE DE CHAUVES-SOURIS DANS LES PYRÉNÉES-ORIENTALES DE 1945 A 1959. [RESULTS OF BANDING BATS IN PYRÉNÉES-ORIENTALES FROM 1945 TO 1959.] Vie Milieu 15(3): 765-799, illus. 1964. [From Biol. Abstr. 47(20), 1966. In French.] WR 126: 13

Leitner, Philip. BODY TEMPERATURE, OXYGEN CONSUMPTION, HEART RATE AND SHIVERING IN THE CALIFORNIA MASTIFF BAT, EUMOPS PEROTIS. Comp. Biochem. Physiol. 19(2): 431-443. Oct. 1966. [From J. Mammal. 48(2), 1967.] WR 126: 13

Long, Charles A., and Paul Kamensky. OSTEOMETRIC VARIATION AND FUNCTION OF THE HIGHSPEED WING OF THE FREE-TAILED BAT. Am. Midland Nat. 77(2): 452-461, 3 figs. Apr. 1967. WR 126: 13
[Univ. Ill., Urbana.] "Tadarida brasiliensis."

Martin, Robert L. CURRENT ASPECTS OF U.S. BAT RABIES PROBLEM. Bat Banding News 2(3): 22-26. July 1961. WR 126: 13
[State Univ. Coll. Education, Plattsburgh, N.Y.] "Since 1953, when the first known case was reported from Florida, 30 other states have reported the finding of at least one occurrence of the disease in a bat.... It is the writer's opinion that bat rabies is probably already well established throughout the U.S. and that more extensive testing will result in its being recorded from every state."

Mezhzherin, V. A., and G. L. Melnikova. [ADAPTIVE IMPORTANCE OF SEASONAL CHANGES IN SOME MORPHOPHYSIOLOGICAL INDICES IN SHREWS.] Acta Theriologica 11 (25): 503-521, 7 figs. 30 Dec. 1966. In Russian with English and Polish summ. WR 126: 13
[Kiev State Univ., Kiev, USSR.]

Mutere, F. A. ON THE BATS OF UGANDA. Uganda J. (Kampala) 30(1): 75-79 + 5 figs. 1966. [From J. Mammal. 48(2), 1967.] WR 126: 13

Nevrly, Miloslav. OJEDINELE ZIMOVISTE NETOPYRU V JIZERSKYCH HORACH. [A WELL-POPULATED HIBERNATING AREA OF BATS IN THE JIZERA MOUNTAINS.] Ziva 13(6): 222-223, illus. 1965. [From Biol. Abstr. 47(24), 1966. In Czech.] WR 126: 13

Roer, H., and W. Egsbaek. ZUR BIOLOGIE EINER SKANDINAVISCHEN POPULATION DER WASSERFLEDERMAUS (MYOTIS DAUBENTONI) (CHIROPTERA). [ON THE BIOLOGY OF SOME SCANDINAVIAN POPULATIONS OF MYOTIS DAUBENTONI (CHIROPTERA).] Z. Säugetierk. 31(6): 440-453. Dec. 1966. [From J. Mammal. 48(2), 1967. In German with English summ.] WR 126: 13

Skoczeń, Stanisław. AGE DETERMINATION, AGE STRUCTURE AND SEX RATIO IN MOLE, TALPA EUROPAEA LINNAEUS, 1758 POPULATIONS. Acta Theriologica 11(26): 523-536, 2 figs. + 1 pl. 30 Dec. 1966. In English with Polish summ. WR 126: 13
[Coll. Agr., Kraków, Poland.]

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[Coll. Agr., Kraków, Poland.]

Skoczeń, Stanisław. STOMACH CONTENTS OF THE MOLE, TALPA EUROPAEA LINNAEUS, 1758 FROM SOUTHERN POLAND. Acta Theriologica 11(28): 551-575, 10 figs. 30 Dec. 1966. In English with Polish summ. WR 126: 13
[Coll. Agr., Kraków, Poland.]

Stebbings, R. E. BATS ASSOCIATED WITH A PLECOTUS COLONY. J. Zool. (London) 150(4): 492-493. Dec. 1966. WR 126: 13
[Furzebrook Res. Sta., Wareham, Dorset, England.] "Pipistrellus pipistrellus, Eptesicus serotinus, Myotis mystacinus, and M. bechsteini."

SHREWS, MOLES, BATS--Continued

Sulkin, S. Edward, Ruth A. Sims, and Rae Allen. ISOLATION OF ST. LOUIS ENCEPHALITIS VIRUS FROM BATS (TADARIDA B. MEXICANA) IN TEXAS. Science 152 (3719): 223-224. 8 Apr. 1966. WR 126: 14
[Univ. Texas, Dallas.] Abstract: A strain of St. Louis encephalitis virus has been isolated from Mexican free-tailed bats (Tadarida b. mexicana) collected at the time of an outbreak of encephalitis in Texas in 1964.

Tuttle, M. D. PREDATION BY CHROTOPTERUS AURITUS ON GECKOS. J. Mammal. 48 (2): 319. May 1967. WR 126: 14
[U.S. Natl. Museum, Washington, D.C.]

Voronov, V. G. [ON THE DWELLING OF SOREX MINUTUS L. ON THE PARAMUSHIR ISLE (KURILE ISLANDS).] Zool. Zhur. 45(10): 1584-1585. 1966. [From J. Mammal. 48 (2), 1967. In Russian with English summ.] WR 126: 14

Williams, Timothy C., and Janet M. Williams. RADIO TRACKING OF HOMING BATS. Science 155(3768): 1435-1436, 1 fig. 17 Mar. 1967. WR 126: 14
[Rockefeller Univ., New York, N.Y.] Abstract: Neotropical bats, Phyllostomus hastatus, were released 10 kilometers from their home roost, and their homeward flights were tracked by radio. Flights of bats with unimpeded vision were strongly oriented in the homeward direction, while the flights of blindfolded bats did not show this marked orientation.

Wołoszyn, Bronislaw Wojciech. NOWE OBSERWACJE NAD NIETOPERZAMI Z JASKIŃ GÓR ŚWIETOKRZYSKICH. [NEW OBSERVATIONS ON BATS FROM THE CAVES IN ŚWIETOKRZYSKIE MOUNTAINS.] Przegl. Zool. 8(3): 286-292, illus. 1964. [From Biol. Abstr. 47 (24), 1966. In Polish with English summ.] WR 126: 14

RABBITS & PIKAS

Andrzejewski, Roman, and Włodzimierz Jezierski. STUDIES ON THE EUROPEAN HARE. XI. ESTIMATION OF POPULATION DENSITY AND ATTEMPT TO PLAN THE YEARLY TAKE OF HARES. Acta Theriologica 11(21): 433-448, 2 figs. 30 Dec. 1966. In English with Polish summ. WR 126: 14
[Inst. Ecol., Polish Acad. Sci., Warsaw, Poland.]

Dunsmore, J. D. NEMATODE PARASITES OF FREE-LIVING RABBITS, ORYCTOLAGUS CUNICULUS (L.), IN EASTERN AUSTRALIA. I. VARIATIONS IN THE NUMBER OF TRICHOSTRONGYLUS RETORTAEFORMIS (ZEDER). Austral. [J.] Zool. 14: 185-199. 1966. [From J. Mammal. 48(2), 1967.] WR 126: 14

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Johnson, Donald R. DIET AND REPRODUCTION OF COLORADO PIKAS. J. Mammal. 48 (2): 311-315, 2 figs. May 1967. WR 126: 14
[Minot State Coll., Minot, N. Dak.] "Ochotona princeps."

Keith, Lloyd B., and E. Charles Meslow. JUVENILE BREEDING IN THE SNOWSHOE HARE. J. Mammal. 48(2): 327. May 1967. WR 126: 14
[Univ. Wis., Madison.]

Matuszewski, Gustaw. STUDIES ON THE EUROPEAN HARE. XIII. FOOD PREFERENCE IN RELATION TO TREES' BRANCHES EXPERIMENTALLY PLACED ON THE GROUND. Acta Theriologica 11(23): 485-496, 4 figs. + 1 pl. 30 Dec. 1966. In English with Polish summ. WR 126: 14
[Inst. Ecol., Polish Acad. Sci., Warsaw, Poland.] Malus, Crataegus and Populus were preferred followed by Robinia, Quercus, Fraxinus, Pinus and Tilia.

Mazurkiewicz, Maria. STUDIES ON THE EUROPEAN HARE. XIV. SOME PHYSIOLOGICAL CHARACTERISTICS OF BLOOD. Acta Theriologica 11(24): 497-502, 2 figs. 30 Dec. 1966. In English with Polish summ. WR 126: 15
[Inst. Ecol., Polish Acad. Sci., Warsaw, Poland.]

Otsu, Shoei. [ECOLOGICAL STUDIES OF TOHOKU HARE LEPUS BRACHYURUS ANGUSTIDENS HOLLISTER. II. ON THE GESTATION PERIOD AND THE GROWTH AFTER THE BIRTH.] Japanese J. Appl. Entomol. Zool. 10(2): 84-88. June 1966. [From J. Mammal. 48(2), 1967. In Japanese with English summ.] WR 126: 15

Pielowski, Zygmunt. FORSCHUNGEN ÜBER DEN FELDHASEN. XII. DIE RAUMSTRUKTUR DER POPULATION. [STUDIES ON THE EUROPEAN HARE. XII. THE STRUCTURE OF POPULATION.] Acta Theriologica 11(22): 449-484, 11 figs. 30 Dec. 1966. In German with Polish summ. WR 126: 15
[Inst. Ecol., Polish Acad. Sci., Warsaw, Poland.]

Pontrelli, Michael John. A POPULATION STUDY OF THE BLACK-TAILED JACKRABBIT AT THE OAKLAND AIRPORT. Ph.D. thesis, Univ. Calif. (Berkeley). 143 p. 1966. [From Dissertation Abstr. 27(8B), 1967.] WR 126: 15
Behavior, distribution, movement, vegetation relationships, reproduction, survival and mortality at both undisturbed and artificially reduced population levels of Lepus californicus during 1960-1965.

Samuel, D. E. BIRDSFOOT TREFOIL COMPARED TO OTHER LEGUMES AS FOOD OF THE COTTONTAIL. J. Wildl. Mgmt. 31(2): 322-325, 3 figs. Apr. 1967. WR 126: 15
[W. Va. Univ., Morgantown.] Abstract: Because captive wild cottontail rabbits (Sylvilagus floridanus) did not appear to consume birdsfoot trefoil (Lotus corniculatus), a study was begun to compare the consumption by penned cottontails of four legumes: birdsfoot trefoil, red clover (Trifolium pratense), alfalfa (Medicago sativa), and ladino clover (Trifolium repens). When given a choice of two legumes successively, cottontails first ate red clover, then alfalfa, then birdsfoot trefoil, and finally, ladino clover. Based on amounts eaten, penned wild cottontails preferred red clover (61.1 g eaten per feeding), to alfalfa (54.0 g), trefoil (48.3 g) and ladino clover (32.9 g). Juvenile rabbits, with no previous feeding experience on legumes, gained and lost weight respectively on 2-day alternating diets of red clover and birdsfoot trefoil. In field observations from late spring to early winter, neither cottontails nor woodchucks were seen to eat trefoil in pastures of grasses and trefoil.

RODENTS--MISCELLANEOUS

Abe, Hisashi. [HABITATS OF WILD MICE IN HOKKAIDO.] Japanese J. Appl. Entomol. Zool. 10(2): 78-83. June 1966. [From J. Mammal. 48(2), 1967. In Japanese with English summ.] WR 126: 15

Alimbaev, R. A. [CONCERNING THE ECOLOGY AND DISTRIBUTION OF SEVERAL RODENTS IN NORTHWESTERN TSELINA REGION.] Izvest. Akad. Nauk Kaz. SSR Ser. Biol. Nauk 6: 39-46. 1964. [From Biol. Abstr. 47(24), 1966, from Referat. Zhur., Biol., 1965, no. 6I140. Transl. of Russian abstr.] WR 126: 15

Bancroft, William L. RECORD FECUNDITY FOR REITHRODONTOMYS MEGALOTIS. J. Mammal. 48(2): 306-308. May 1967. WR 126: 15
[404 East 11th, Ottawa, Kans.]

Corthum, Kenneth Wm., Jr. REPRODUCTION AND DURATION OF PLACENTAL SCARS IN THE PRAIRIE VOLE AND THE EASTERN VOLE. J. Mammal. 48(2): 287-292. May 1967. WR 126: 15
[Catawba Coll., Salisbury, N.C.] Abstract: The mean number of embryos in 134 prairie voles was 3.89 with a range of 2 to 7. Corresponding values in 153 eastern voles were 4.46 and 1 to 9. The mode was four in both species.

An estimated 89.4% and 93.0% of the ova liberated were implanted in the prairie voles and the eastern voles, respectively. Prairie voles breed throughout the year at Terre Haute, Indiana. Pregnant eastern voles were taken in all months but January. The percentage of pregnant females was lowest in the winter and highest in the spring for both species. There was no significant difference between the mean number of young per litter produced in captivity and the mean number of embryos in the uteri of either species. Placental scars disappeared at about 42 to 45 days in the prairie vole and in about 44 to 49 days in the eastern vole.

Delany, M. J., and B. R. Neal. A REVIEW OF THE MURIDAE (ORDER RODENTIA) OF UGANDA. Bull. British Museum Nat. Hist. Zool. 13(9): 295-355. 1966. [From Biol. Abstr. 47(21), 1966.] WR 126: 16
[Makerere Coll., Kampala, Uganda.]

Drożdż, Andrzej. FOOD HABITS AND FOOD SUPPLY OF RODENTS IN THE BEECH FOREST. Acta Theriologica 11(15): 363-384, 5 figs. 15 Dec. 1966. In English with Polish summ. WR 126: 16
[Jagiellonian Univ., Kraków, Poland.]

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[Univ. Calif., Los Angeles.] Abstract: The radiation dose detected by microthermoluminescent dosimeters attached to pocket mice, Perognathus formosus, indicated the amount of time these animals were active on the surface of the ground. Radiation was from an elevated, partially shielded source in the center of the 8-hectare enclosure. The rodents are almost entirely inactive in midwinter but spend 30 to 40 percent of their time above ground in the summer months. Periods of activity increase gradually through the spring. These results support laboratory findings that members of this genus undergo periods of torpor in response to low ambient temperatures or food shortage. That this adaptation may enhance survival is indicated by the longevity of marked individuals of a related species.

Gebczyńska, Zofia, and Andrzej Myrcha. THE METHOD OF QUANTITATIVE DETERMINING OF THE FOOD COMPOSITION OF RODENTS. Acta Theriologica 11(16): 385-390. 15 Dec. 1966. In English with Polish summ. WR 126: 16
[Mammals Res. Inst., Polish Acad. Sci., Białowieża, Poland.]

Gebczyński, Marek. THE DAILY ENERGY REQUIREMENT OF THE YELLOW-NECKED FIELD MOUSE IN DIFFERENT SEASONS. Acta Theriologica 11(17): 391-398, 3 figs. 15 Dec. 1966. In English with Polish summ. WR 126: 16
[Mammals Res. Inst., Polish Acad. Sci., Białowieża, Poland.] Abstract: The daily energy requirement of the yellow-necked field mouse is 0.467 Kcal/g/day in summer, 0.551 in autumn, 0.413 in winter and 0.505 in spring. This was calculated from the mean daily oxygen consumption with the corrections for the influence of temperature on heat production (thermoregulation) and the increased requirement during gestation and lactation. The daily energy budget of field mice from the Białowieża population in summer is 12.347 Kcal/animal/day (mean body weight--26.44 g), in autumn--15.747 (28.58 g), in winter--11.176 (27.06 g) and in spring--12.130 (24.02).

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[Jagiellonian Univ., Kraków, Poland.]

Grodziński, Władysław, Andrzej Górecki, Kazimiera Janas, and Paweł Migula. EFFECT OF RODENTS ON THE PRIMARY PRODUCTIVITY OF ALPINE MEADOWS IN BIESZCZADY MOUNTAINS. Acta Theriologica 11(20): 419-431, 2 figs. 15 Dec. 1966. In English with Polish summ. WR 126: 17
[Jagiellonian Univ., Kraków, Poland.]

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[Univ. Kans., Lawrence.]

Kaczmarski, Franciszek. BIOENERGETICS OF PREGNANCY AND LACTATION IN THE BANK VOLE. Acta Theriologica 11(19): 409-417, 1 fig. 15 Dec. 1966. In English with Polish summ. WR 126: 17
[Jagiellonian Univ., Kraków, Poland.] Abstract: The food consumption and assimilation were determined in the females of bank vole, Clethrionomys glareolus (Schreber, 1780) during the whole period of pregnancy and lactation (18 + 18 days). The daily food assimilation (digestion) of non-reproducing females (body weight 25 g) is 17.5 Kcal/animal. Toward the end of gestation it reaches 23.7 Kcal/day/animal and during the maximal lactation it averages 38.9 Kcal/day for the females of the same body weight. The energy requirement of females increases by 24% during pregnancy and 92% during lactation. To produce a litter of 5 young and raise 4 of them to weaning a female has to assimilate additionally 364 Kcal; 75 for pregnancy and 289 Kcal for lactation. The increase in food intake during this period corresponds to 406 Kcal. The digestibility coefficient is high in both non-reproducing and pregnant or lactating females (88.5%). The ecological efficiency is also very high; 11.8% during pregnancy and 14.6% during lactation. In the models of rodent bioenergetics the correction for gestation and lactation has to be considered. These corrections are computed for whole breeding season in relation to the number of mature females in the population.

Kalela, Olavi. BEITRÄGE ZUR BIOLOGIE DES WALDLEMMINGS, MYOPUS SCHISTICOLOR (LILLJ.). [CONTRIBUTIONS TO THE BIOLOGY OF THE WOOD LEMMING, MYOPUS SCHISTICOLOR (LILLJ.).] Arch. Soc. Zool. Bot. Fennicae "Vanamo" 18 (suppl.): 1-95, illus. 1963. [From Biol. Abstr. 47(20), 1966. In German.] WR 126: 17

Laban, Cornelis. A STUDY OF BEHAVIOR IN THE DEER MOUSE PEROMYSCUS MANICULATUS RUBIDUS OSGOOD DURING ITS 24-HOUR CYCLE OF ACTIVITY IN A SIMULATED NATURAL HABITAT. Ph.D. thesis, Oreg. State Univ. 102 p. 1966. [From Dissertation Abstr. 27(8B), 1967.] WR 126: 17

Labunetz, N. F., P. A. Petrov, and E. V. Yundin. [QUANTITATIVE EVALUATION OF SOME ELEMENTS OF PLAGUE EPIZOOTY BY MODELLING IN POPULATIONS OF FIELD VOLES IN THE JAVAKHET-ARMENIAN HIGHLAND.] Zool. Zhur. 45(8): 1241-1246. 1966. [From J. Mammal. 48(2), 1967. In Russian with English summ.] WR 126: 17

Leiby, Paul D. CESTODE IN NORTH DAKOTA: ECHINOCOCCUS IN FIELD MICE. Science 150(3697): 763. 5 Nov. 1965. WR 126: 17
[Minot State Coll., Minot, N. Dak.] Abstract: Field mice (Microtus pennsylvanicus and Peromyscus maniculatus) are naturally infected with Echinococcus multilocularis. Thus, the sylvatic cycle (fox to field mice to fox) has been established in North Dakota. This cestode is expected to extend its range to other agricultural regions of the continental United States where similar conditions favorable for the completion of its life cycle exist.

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Linzey, Donald W., and Alicia V. Linzey. MATURATIONAL AND SEASONAL MOLTS IN THE GOLDEN MOUSE, OCHROTOMYS NUTTALLI. J. Mammal. 48(2): 236-241, 1 fig. May 1967. WR 126: 18
[Cornell Univ., Ithaca, N.Y.]

Mukhamedkulov, M. M. ON THE DISTRIBUTION OF MURINAE-RODENTS IN THE SURKHAN RIVER BASIN. Zool. Zhur. 45(7): 1111-1112. 1966. [From J. Mammal. 48(2), 1967. In Russian with English summ.] WR 126: 18

Rolan, R. G., and H. T. Gier. CORRELATION OF EMBRYO AND PLACENTAL SCAR COUNTS OF PEROMYSCUS MANICULATUS AND MICROTUS OCHROGASTER. J. Mammal. 48(2): 317-319. May 1967. WR 126: 18
[Univ. Nebr., Lincoln.]

Saint Girons, Marie-Charlotte, and Francis Peter. LES RONGEURS DU MAROC. [THE RODENTS OF MOROCCO.] Trav. Inst. Sci. Cherifien Ser. Zool. 31: 7-58, illus. 1965. [From Biol. Abstr. 47(24), 1966. In French.] WR 126: 18
[Museum Natl. Hist. Nat., Paris, France.]

Stoddart, D. Michael. A NOTE ON THE FOOD OF THE NORWAY LEMMING. J. Zool. (London) 151(2): 211-213, 1 fig. Feb. 1967. WR 126: 18
[Culterty Field Sta., Newburgh, Aberdeenshire, Scotland.] Abstract: Norway lemming droppings remaining from the high 1963 population in Jämtland (mid-Sweden) were examined microscopically for an evaluation of food species present. The findings from this were compared with the occurrence of these species growing on the mountains. It is tentatively concluded that lemmings are exercising a degree of selectivity in their choice of food species, but the reasons for this choice still remain obscure.

Taurin'sh, E. Ya. [THE REPRODUCTION DYNAMICS OF FIELD MURINE RODENTS IN THE LATVIAN SSR FROM 1948 THROUGH 1962.] In: (Prognosis in the protection of plants from pests and diseases.) Akad. Nauk Latv. SSR (Riga). p. 239-261. 1964. [From Biol. Abstr. 47(24), 1966, from Referat. Zhur., Biol., 1965, no. 5I215. Transl. of Russian abstr. Original with German summ.] WR 126: 18

Tikhvinskaya, M. V. [FEATURES OF THE DISTRIBUTION OF THE WATER VOLE IN THE VOLGA-KAMA AREA AS RELATED TO ITS ECONOMIC AND EPIDEMIC SIGNIFICANCE.] In: (Natural resources of the Volga-Kama area. Animal world.) Nauk (Moscow). p. 60-70. 1964. [From Biol. Abstr. 47(24), 1966, from Referat. Zhur., Biol., 1965, no. 5I219. Transl. of Russian abstr.] WR 126: 18

Twigg, G. I. STUDIES ON HOLOCHILUS SCIURBUS BERBICENSIS, A CRICETINE RODENT FROM THE COASTAL REGION OF BRITISH GUIANA. Proc. Zool. Soc. London 145(2): 263-283, illus. 1965. [From Biol. Abstr. 47(17), 1966.] WR 126: 18
[Royal Holloway Coll., Surrey, England.]

Voronov, G. A. [ECOLOGY OF GREY VOLES (MICROTUS SPP.) IN THE UPPER REACHES OF THE LENA RIVER.] Bull. Moscow Obshch. Ispit. Prirody (Biol.) 70(3): 22-34. 1965. [From Biol. Abstr. 47(18), 1966. In Russian with English summ.] WR 126: 18

Wagner, Mahlon W. COMPARATIVE SUGAR PREFERENCE IN GRASSHOPPER MICE AND KANGAROO RATS. J. Mammal. 48(2): 324-326. May 1967. WR 126: 18
[Valparaiso Univ., Valparaiso, Ind.]

RATTUS & MUS

Adamczyk, Krystyna, and Kazimierz Petrusewicz. DYNAMICS, DIVERSITY AND INTRAPOPULATION DIFFERENTIATION OF A FREE-LIVING POPULATION OF HOUSE MOUSE. Ekologia Polska--Ser. A 14(36): 725-740, 5 figs. 1966. In English with Polish summ. WR 126: 18
[Inst. Ecol., Polish Acad. Sci., Warsaw, Poland.]

Borisenko, V. A. [THE HOUSE MOUSE OF THE KOSTANAI OBLAST IN CONNECTION WITH THE PLOWING OF VIRGIN SOIL.] Izvest. Akad. Nauk Kaz. SSR Ser. Biol. Nauk 5: 35-42. 1964. [From Biol. Abstr. 47(24), 1966, from Referat. Zhur., Biol., 1965, no. 6I168. Transl. of Russian abstr.] WR 126: 19

Lloyd, James A., and John J. Christian. RELATIONSHIP OF ACTIVITY AND AGGRESSION TO DENSITY IN TWO CONFINED POPULATIONS OF HOUSE MICE (MUS MUSCULUS). J. Mammal. 48(2): 262-269, 1 fig. May 1967. WR 126: 19
[Albert Einstein Med. Center, Philadelphia, Pa.]

SCIURIDS

Beal, Roger O. RADIO TRANSMITTER-COLLARS FOR SQUIRRELS. J. Wildl. Mgmt. 31(2): 373-374, 1 fig. Apr. 1967. WR 126: 19
[Waterloo Wildl. Expt. Sta., New Marshfield, Ohio.] Abstract: An adjustable plastic transmitter-collar suitable for the gray squirrel (Sciurus carolinensis) and fox squirrel (Sciurus niger) was developed. It can be attached at the trap site within 5 min. Placed on 23 squirrels, the transmitter-collar permitted 35-45 days of radio-tracking data to be obtained from each squirrel.

Cooper, G. F., and J. G. Robson. DIRECTIONALLY SELECTIVE MOVEMENT DETECTORS IN THE RETINA OF THE GREY SQUIRREL. J. Physiol. (London) 186(2): 116P-117P. Oct. 1966. [From J. Mammal. 48(2), 1967.] WR 126: 19

Crescitelli, Frederick, and John Diehl Pollack. COLOR VISION IN THE ANTELOPE GROUND SQUIRREL. Science 150(3701): 1316-1318. 3 Dec. 1965. WR 126: 19
[Univ. Calif., Los Angeles.] Abstract: Antelope ground squirrels (Citellus leucurus) were able, after conditioning, to respond correctly to a port illuminated with light at a wave-length of 460 nanometers. This color, randomly presented at one of two positions, was correctly selected in reference to a second port illuminated with light at 500, 520, 569, and 600 nanometers, or with white light of varying intensity. Luminosity was not a factor in the discrimination.

Nelzina, E. N. [SUMMER BURROWS OF GROUND-SQUIRRELS AND THEIR ROLE IN THE FORMATION OF MICROBIOCOENOSES.] Zool. Zhur. 45(8): 1235-1240. 1966. [From J. Mammal. 48(2), 1967. In Russian with English summ.] WR 126: 19

Sapozhenkov, Yu. F. [ECOLOGY OF THE LONG-CLAWED GROUND SQUIRREL (SPERMOPHILOPSIS LEPTODACTYLUS LEPTODACTYLUS) IN THE KARA KUM DESERT.] Zool. Zhur. 44(10): 1553-1557. 1965. [From Biol. Abstr. 47(20), 1966. In Russian with English summ.] WR 126: 19
[Kostroma Pedagog. Inst., Kostroma, USSR.]

Semenov, B. T. [SQUIRREL HUNTING IN NORTHERN EUROPEAN REGIONS AND PROBLEMS OF ITS DEVELOPMENT.] Trudy Vses. Nauch.-Issled. Inst. Zhivotn. Syr'ya Pushniny 20: 38-59. 1963. [From Biol. Abstr. 47(24), 1966, from Referat. Zhur., Biol., 1965, no. 1I251. Transl. of Russian abstr.] WR 126: 19

Semenov, B. [TO INFLUENCE THE "YIELD" OF SQUIRRELS.] Okhota & Okhotnich'e Khoz. 1964(1): 8-9. 1964. [From Biol. Abstr. 47(24), 1966, from Referat. Zhur., Biol., 1965, no. 1I241. Transl. of Russian abstr.] WR 126: 19

Smith, N. B., and F. S. Barkalow, Jr. PRECOCIOUS BREEDING IN THE GRAY SQUIRREL. J. Mammal. 48(2): 328-330. May 1967. WR 126: 19
[N.C. State Univ., Raleigh.]

Snigirevskaya, E. M. [BIOLOGY OF LONG-TAILED SIBERIAN SUSLIK (CITELLUS UNDULATUS) OF THE AMUR-ZEYA PLATEAU.] Zool. Zhur. 45(1): 125-130. 1966. [From Biol. Abstr. 47(24), 1966. In Russian with English summ.] WR 126: 19
[Zool. Inst. Acad. Sci. USSR, Leningrad, USSR.]

SCIURIDS--Continued

Spalding, David A. E. RED AND GREY SQUIRRELS IN THE SHEFFIELD AREA. Naturalist (England) (899): 119-121. Oct.-Dec. 1966. [From J. Mammal. 48 (2), 1967.] WR 126: 20

BEAVER

Leege, Thomas A., and Roger M. Williams. BEAVER PRODUCTIVITY IN IDAHO. J. Wildl. Mgmt. 31(2): 326-332, 2 figs. Apr. 1967. WR 126: 20 [Idaho Fish & Game Dept., Kamiah.] Abstract: Data on the productivity of beavers (Castor canadensis), including sex and age ratios, litter size, and rate of pregnancy, were gathered from livetrapping and fur-trapping operations in 1953-56 and 1962-64. Standard methods were used for determining sex and age of both live beavers and carcasses. Uteri hardened and discolored by preservatives were cut longitudinally to expose breaks on the internal ridge of tissue which pointed out sites of placentation. Counts of placental scars and fetuses indicated average litter size to be 3.1 and 3.4, respectively. The percentage of yearling and older females with placental scars dropped from 46.2 in the mid-1950's to 32.3 in the 1960's in southeastern Idaho, possibly owing to increased disturbance of colonies from accelerated fur trapping. Males consistently outnumbered females in kit and yearling age-classes while females were more abundant among the adults. The sex ratio of 352 beavers examined was 113 males per 100 females. Twenty-one percent of these animals were kits, 23 percent yearlings, and 56 percent adults. A disturbed (trapped) beaver population had a lower percentage of kit and yearling beavers than did an undisturbed population (35 percent vs. 49 percent). A highly migratory population consisted of 38 percent late yearlings, supporting the belief that beavers leave their home colony when almost 2 years old.

Yazan, Yu. P. [CONCERNING A FEW MORPHOLOGICAL AND ECOLOGICAL IMPROVEMENTS IN BEAVERS RELATED TO THEIR REACCLIMATIZATION IN THE PECHORO-ILYCHSK PRESERVE.] Trudy Pechoro-Ilychskii Gos. Zapovednik 11: 75-82. 1964. [From Biol. Abstr. 47(24), 1966, from Referat. Zhur., Biol., 1965, no. 7I254. Transl. of Russian abstr.] WR 126: 20

MUSKRAT & NUTRIA

Kalinin, M. N., and G. K. Korsakov. [POSSIBILITY FOR INCREASING THE NUMBER OF MUSKRATS (ONDATRA ZIBETHICA) IN THE KIRGHIZ SSR.] Sbornik Nauch.-Tekh. Inform. Vses. Nauch.-Issled. Inst. Zhivotn. Syr'ya Pushniny 10: 9-13. 1964. [From Biol. Abstr. 47(19), 1966, from Referat. Zhur., Biol., 1965, no. 1I235. Transl. of Russian abstr.] WR 126: 20

Pashkevich, V. Yu. [SIGNIFICANCE OF BIOENGINEERING MEASURES IN MUSKRAT LANDS IN THE FLOOD-PLAIN OF THE OB' RIVER.] Sbornik Nauch.-Tekh. Inform. Vses. Nauch.-Issled. Inst. Zhivotn. Syr'ya Pushniny 10: 24-34. 1964. [From Biol. Abstr. 47(19), 1966, from Referat. Zhur., Biol., 1965, no. 1I233. Transl. of Russian abstr.] WR 126: 20

Shurygin, V. V., and N. M. Nikiforov. [PRELIMINARY RESULTS FROM INTRODUCTION OF THE MUSKRAT (ONDATRA ZIBETHICA) INTO THE TUVA ASSR.] Sbornik Nauch.-Tekh. Inform. Vses. Nauch.-Issled. Inst. Zhivotn. Syr'ya Pushniny 10: 13-24. 1964. [From Biol. Abstr. 47(19), 1966, from Referat. Zhur., Biol., 1965, no. 1I231. Transl. of Russian abstr.] WR 126: 20

Tarasov, M. P. [MUSKRAT (ONDATRA ZIBETHICA) GROUNDS IN THE NORTHERN IRKUTSK OBLAST (BASIN OF THE LOWER TUNGUS RIVER).] Sbornik Nauch.-Tekh. Inform. Vses. Nauch.-Issled. Inst. Zhivotn. Syr'ya Pushniny 10: 3-9. 1964. [From Biol. Abstr. 47(19), 1966, from Referat. Zhur., Biol., 1965, no. 1I236. Transl. of Russian abstr.] WR 126: 20

FUR ANIMALS, GENERAL

Tavrovskii, V. A. [DISTRIBUTION AND SOME CHARACTERISTICS OF CHANGES IN THE NUMBERS OF FUR-BEARING MAMMALS IN YAKUTIA.] In: (Studies on the ecology and changes in the number of mammals in Yakutia and their diseases.) Nauka (Moscow). p. 3-59. 1964. [From Biol. Abstr. 47(22), 1966, from Referat. Zhur., Biol., 1965, no. 11242. Transl. of Russian abstr.] WR 126: 21

MUSTELIDS

Birney, Elmer C., and Eugene D. Fleharty. AGE AND SEX COMPARISONS OF WILD MINK. Trans. Kans. Acad. Sci. 69(2): 139-145. Summer 1966. [From J. Mammal. 48(2), 1967.] WR 126: 21

Danilov, P. I. [SOME DATA ON THE REPRODUCTION OF THE GLUTTON (GULO GULO).] Zool. Zhur. 44(11): 1737-1739, illus. 1965. [From Biol. Abstr. 47(21), 1966. In Russian with English summ.] WR 126: 21
[Inst. Biol., Karelian Acad. Sci. USSR, Petrozavodsk, USSR.]

Duebbert, Harold F. SWIMMING BY A BADGER. J. Mammal. 48(2): 323. May 1967. WR 126: 21
[Northern Prairie Wildl. Res. Center, Jamestown, N. Dak.] "Taxidea taxus."

Webster, W. A. FILAROIDES MEPHITIS N. SP. (METASTRONGYLOIDEA: FILAROIDIDAE) FROM THE LUNGS OF EASTERN CANADIAN SKUNKS. Canadian J. Zool. 45(2): 145-147, 3 figs. Mar. 1967. WR 126: 21
[Canada Dept. Agr., Hull, Quebec.]

DOGS, WOLVES, FOXES

Dolgov, V. A., and O. L. Rossolimo. [AGE CHANGES OF SOME STRUCTURAL PECULIARITIES OF THE SKULL AND BACULUM IN CARNIVOROUS MAMMALS: AGE DETERMINATION PROCEDURE EXEMPLIFIED BY POLAR FOX (ALOPEX LAGOPUS L.).] Zool. Zhur. 45(7): 1074-1080. 1966. [From J. Mammal. 48(2), 1967. In Russian with English summ.] WR 126: 21

Fairley, J. S. AN INDICATION OF THE FOOD OF THE FOX (VULPES VULPES) IN NORTHERN IRELAND AFTER MYXOMATOSIS. Irish Nat. J. 15(5): 149-151. 1966. [From Biol. Abstr. 47(24), 1966.] WR 126: 21
[Queen's Univ., Belfast, Northern Ireland.]

Fichter, Edson, and Roger Williams. DISTRIBUTION AND STATUS OF THE RED FOX IN IDAHO. J. Mammal. 48(2): 219-230, 1 fig. May 1967. WR 126: 21
[Idaho State Univ., Pocatello.] Abstract: Skeletal remains taken in excavations show that the red fox has been present in western North America for at least 14,000 years. Its historical occurrence in Idaho was apparently first recorded in 1891. Information furnished by trappers, predator control agents, conservation officers, biologists, and other cooperators from 1945 through 1965 indicates that, beginning about 1960, this species has markedly increased its density in some parts of the state and invaded habitats which it had not previously occupied. The red fox's status as a furbearer has, however, remained insignificant in Idaho. While a taxonomic analysis is not undertaken, Idahoan specimens are tentatively assigned to Vulpes vulpes macroura Baird.

Ishunin, G. I. [FEEDING HABITS OF THE FOX IN THE NORTHERN KYZL-KUM.] Uzbekskii Biol. Zhur. 9(6): 50-52. 1965. [From Biol. Abstr. 47(20), 1966. In Russian.] WR 126: 21
[Inst. Zool. Parasitol., Tashkent, USSR.]

Linhart, Samuel B., and James J. Kennelly. FLUORESCENT BONE LABELING OF COYOTES WITH DEMETHYLCHLORTETRACYCLINE. J. Wildl. Mgmt. 31(2): 316-321, 3 figs. Apr. 1967. WR 126: 22

[Denver Wildl. Res. Center, Denver, Colo.] Abstract: Demethylchlortetracycline (DMCT) is an antibiotic which chelates with calcium ions and induces a characteristic golden-yellow fluorescence in bones and teeth. A single oral dose of 10 mg/kg of body weight was administered to 11 captive coyotes (Canis latrans). Portions of bone and tooth dentin from these animals fluoresced under ultraviolet light. Gross fluorescence was most apparent on the mandible, with lesser amounts on the pelvis, femur, and tibia. Intensity and quantity of fluorescence was greatest in younger animals. The degree of fluorescence was similar in animals killed at 2 months and 5 months posttreatment, indicating that the compound is effective as a long-term label.

Linhart, Samuel B., and Frederick F. Knowlton. DETERMINING AGE OF COYOTES BY TOOTH CEMENTUM LAYERS. J. Wildl. Mgmt. 31(2): 362-365, 1 fig. Apr. 1967. WR 126: 22

[Denver Wildl. Res. Center, Denver, Colo.] Abstract: A technique is described for determining the age of coyotes (Canis latrans) by characteristics of the canine tooth. Study of 30 known-age coyote skulls revealed that permanent canines erupt at about 4 to 5 months of age, and the root canal closes between the 8th and 9th month. The first annular cementum layer is formed in the root at about the 20th month and one layer is formed each year thereafter. The use of cementum layers to determine age appears accurate even for very old coyotes.

CATS

Calgar, Melchant. FELIS CARACAL SCHMITZI'NIN ANADOLUDA ILK DEFA BULUNUSU. [FELIS CARACAL SCHMITZI (MATSCHIE, 1912) IN ANATOLIA.] Istanbul Univ. Fak. Mecmuasi Ser. B. Sci. Nat. 28(1/2): 51-53, illus. 1963. [From Biol. Abstr. 47 (24), 1966. In Turkish.] WR 126: 22

[Univ. Istanbul, Istanbul, Turkey.]

BIG GAME, GENERAL

Abramov, K. [UNGULATE ANIMALS IN THE MARITIME TERRITORY.] Okhota & Okhotnich'e Khoz. 5: 22. 1959. [From Biol. Abstr. 47(21), 1966, from Referat. Zhur., Biol., 1960, no. 81725. Transl. of Russian abstr.] WR 126: 22

The winters of 1956/57 and 1957/58 were noteable for heavy snowfall and caused a decline in the population of Altai wapitis Cervus elaphus xanthopygus and wild boars (a great number of which died from swine plague). To restore the numbers of the wild ungulates in the Maritime Territory, it is necessary to enlarge the area of the Sikhote-Alin Reservation (it was considerably reduced in 1951) and to implement a number of other measures.

Aleksandrov, V. N., and E. M. Slepov. [APPEARANCE OF EUROPEAN ELKS (ALCES ALCES) IN THE NORTHERN CAUCASUS.] Zool. Zhur. 44(6): 952. 1965. [From Biol. Abstr. 47(18), 1966. In Russian with English summ.] WR 126: 22

Anderson, Roy C., Murray W. Lankester, and Uta R. Strelive. FURTHER EXPERIMENTAL STUDIES OF PNEUMOSTRONGYLUS TENUIS IN CERVIDS. Canadian J. Zool. 44(5): 851-861, 21 figs. Sept. 1966. WR 126: 22

[Univ. Guelph, Guelph, Ontario.] Abstract: Two young wapiti (Cervus canadensis nelsoni) and a female mule deer fawn (Odocoileus hemionus hemionus) were infected experimentally with Pneumostrongylus tenuis from white-tailed deer (Odocoileus virginianus borealis). The male wapiti showed only slight clinical signs after infection, and first-stage larvae appeared in its faeces 92 days later. The female wapiti showed severe neurologic signs that terminated in general paralysis on the 54th day. The mule deer showed severe

neurologic signs and died of paralysis on the 62nd day. Numerous worms were found in the subdural space and neural parenchyma, especially in the dorsal horns of grey matter, of the female wapiti and the mule deer. Traumatic damage in the dorsal horns was extensive, especially in the wapiti. Histopathologic findings were similar to those reported earlier in moose calves (Alces americana americana) infected with P. tenuis. Study of worms recovered from experimentally infected cervids indicates that P. tenuis develops similarily in white-tailed deer, moose, wapiti, and mule deer although in the first species it causes little damage to the central nervous system. The possibility that P. tenuis could become established in wapiti introduced into eastern North America is noted.

Bonadonna, T. LES AUCHENIDES DE L'AMERIQUE DU SUD. [THE AUCHENIA OF SOUTH AMERICA.] Rec. Med. Veterinaire Ecole Alfort 141(8): 749-771, illus. 1965. [From Biol. Abstr. 47(23), 1966. In French with English and Spanish summ.] WR 126: 23

[Ist. Sperimontale Italiano Lazzaro Spallanzani Fecondazione Artificiale, Milan, Italy.] The origin, morphological and physiological characteristics, breeding, management and respective qualities of animal products of the llama, alpaca, guanaco and vicuna.

Chard, J. S. R. THE RED DEER OF FURNESS FELLS. Forestry 39(2): 135-150. 1966. [From Bibliog. Agr. 31(4), 1967.] WR 126: 23

"Includes damage and control."

Child, Graham, and A. S. Mossman. RIGHT HORN IMPLANTATION IN THE COMMON DUIKER. Science 149(3689): 1265-1266. 10 Sept. 1965. WR 126: 23

[Natl. Museum, Bulawayo, Rhodesia.] Abstract: In the common duiker, Sylvicapra grimmia, implantation occurs only in the right uterine horn, but both ovaries ovulate.

Coe, Malcolm J. "NECKING" BEHAVIOUR IN THE GIRAFFE. J. Zool. (London) 151 (3): 313-321, 3 figs. Mar. 1967. WR 126: 23

[Univ. Coll. Nairobi, Kenya.]

Comins, Derek M. THE BREEDING SEASON OF THE MOUNTAIN REEDBUCK (REDUNCA FULVORUFULA). Eastern Cape Nat. (27): 19. July 1966. [From J. Mammal. 48(2), 1967.] WR 126: 23

Czyżewska, Teresa. HISTORIA POCHODZENIA I ROZPRZESTRZENIANIA SIE DANIELA. [HISTORY OF THE ORIGIN AND DISTRIBUTION OF THE FALLOW DEER.] Przegl. Zool. 8 (3): 293-297. 1964. [From Biol. Abstr. 47(20), 1966. In Polish with English summ.] WR 126: 23

[Wrocław Univ., Breslau, Poland.]

de Vos, A. TERRITORIAL BEHAVIOR AMONG PUKU IN ZAMBIA. Science 148(3678): 1752-1753, 1 fig. 25 June 1965. WR 126: 23

[Univ. Waterloo, Waterloo, Ontario, Canada.] Abstract: Territorial behavior of a species of antelope, the puku, Adenota vardoni (Livingstone) consists of the defense by males during the mating season of relatively widely spaced territories on a "territorial ground." Females wander about on this area for the purpose of mating.

de Vos, A., P. Brokx, and V. Geist. A REVIEW OF SOCIAL BEHAVIOR OF THE NORTH AMERICAN CERVIDS DURING THE REPRODUCTIVE PERIOD. Am. Midland Nat. 77(2): 390-417, 3 figs. Apr. 1967. WR 126: 23

[Univ. Waterloo, Waterloo, Ontario, Canada.] Abstract: A comparative study was made of the social behavior during the reproductive period of the genera Rangifer, Cervus, Alces and Odocoileus in North America. The social organization and gregariousness of various species are outlined. Rutting behavior consists of antler rubbing and thrashing, the construction of rutting pits and

wallows, rubbing of tarsal glands, and vocalization among males. Patterns of aggression and courtship behavior are discussed. The mating behavior of the various species is compared. Various aspects of maternal behavior, including parturition, nursing and grooming, hiding of the young, and the heeling, integration and early development of the young are discussed. Brief reference is made to vocalization and signals between mothers and their offspring and defense of the young by their mothers.

Eiberle, K. BEITRAG ZUR QUALITATSKONTROLLE BEIM REHWILD. [CONTRIBUTION TO THE CONTROL OF QUALITY IN ROE DEER.] Schweiz. Z. Forstwesen 116(9): 740-752, illus. 1965. [From Biol. Abstr. 47(20), 1966. In German with French summ.] WR 126: 24

Gee, E. P. REPORT ON THE STATUS OF THE KASHMIR STAG: OCTOBER 1965. J. Bombay Nat. Hist. Soc. 62(3): 379-393. Dec. 1965. [From J. Mammal. 48(2), 1967.] WR 126: 24

Hibbs, L. Dale. FOOD HABITS OF THE MOUNTAIN GOAT IN COLORADO. J. Mammal. 48(2): 242-248. May 1967. WR 126: 24

[Colo. Game, Fish & Parks Dept., Colorado Springs.] Abstract: The mountain goat (Oreamnos americanus missoulae) was not native to Colorado but has become successfully established through introductions. The results of a two-year investigation of food habits indicated that grasses and grass-like plants composed the greater part of the diet throughout the year. Kobresia (Kobresia bellardi), Scribner wheatgrass (Agropyron scribneri), blue grasses (Poa sp.), clover (Trifolium dasyphyllum and T. nanum) and sedge (Carex sp.) were the preferred plants.

Hopkins, June M. OBSERVATIONS ON THE REARING AND BEHAVIOR OF YOUNG DUIKERS IN CAPTIVITY. Nigerian Field 31(3): 118-131. July 1966. [From J. Mammal. 48 (2), 1967.] WR 126: 24

Karns, Patrick D. PNEUMOSTRONGYLUS TENUIS IN DEER IN MINNESOTA AND IMPLICATIONS FOR MOOSE. J. Wildl. Mgmt. 31(2): 299-303. Apr. 1967. WR 126: 24

[Minn. Dept. Conserv., Winton.] Abstract: Heads of white-tailed deer (Odocoileus virginianus) were collected from hunters in four areas of Minnesota and inspected for the presence of the roundworm Pneumostrongylus tenuis Dougherty. Adult worms were found in 69 (49 percent) of the 140 heads examined. There was a significantly higher rate of infection in central Minnesota, where there are more than 30 deer per square mile, than in northern Minnesota where deer are fewer, indicating that the occurrence of this parasite is density dependent. Mean rate of infection for the central area was 68 percent and for the northern area, 39 percent. All deer over 4.5 years of age were infected. P. tenuis is the etiological agent of a neurological disease in moose (Alces alces) and it is likely that it was responsible for the major population decline of moose in the 1920's and 1930's. It appears from these findings that, in areas managed primarily for moose, consideration should be given to keeping deer at a minimum population level.

Klötzli, Frank. QUALITÄT UND QUANTITÄT DER REHÄSUNG. IN WALD- UND GRÜNLAND-GESELLSCHAFTEN DES NÖRDLICHEN SCHWEIZER MITTELLANDES. [QUALITY AND QUANTITY OF ROE DEER GRAZING IN FOREST AND MEADOW COMMUNITIES IN MIDDEL, SWITZERLAND.] Veroeffentlichungen Geobot. Inst. Rubel Zurich 38: 1-182, illus. 1965. [From Biol. Abstr. 47(18), 1966. In German with English summ.] WR 126: 24

[Geobot. Inst. Eidgenoess Tech. Hochsch., Zürich, Switzerland.]

Knight, Richard R., and M. R. Mudge. CHARACTERISTICS OF SOME NATURAL LICKS IN THE SUN RIVER AREA, MONTANA. J. Wildl. Mgmt. 31(2): 293-299, 1 fig. Apr. 1967. WR 126: 24

[Mont. Fish & Game Dept., Bozeman.] Abstract: In the Sun River area of Montana ruminants have established licks in only 3 of 25 outcropping bedrock units, which locally are mantled by glacial till. The three units are all

mudstones deposited in relatively shallow-water marine environments. Rapid chemical and spectrographic analyses of the rock and of the spring water in the licks were compared with analyses of rocks and waters unrelated to licks. Sodium bicarbonate and sodium sulphate are the only compounds that occur in much greater quantities in the licks than elsewhere. Boron and lithium also occur in slightly larger quantities in the licks. Calcium, magnesium, and strontium are generally present in lesser quantities. Chlorine occurs in small but normal quantities in both the lick and nonlick waters. Big game animals, predominantly elk (Cervus canadensis) are commonly observed at the licks, especially during the spring and fall. The licks appear to be used socially as gathering places as well as for their mineral content.

Kotov, V. A. [THE SIZE AND WEIGHT OF CAPRA CAUCASICA GÜLD.] Zool. Zhur. 45(8): 1229-1234. 1966. [From J. Mammal. 48(2), 1967. In Russian with English summ.] WR 126: 25

Krämer, A. SICHTMARKIERUNG BEI GEMSEN UND ANDERN EINHEIMISCHEN HUFTIEREN. [SELF-MARKING OF CHAMOIS AND OTHER NATIVE UNGULATES.] Rev. Suisse Zool. 73 (21): 400-407. Sept. 1966. [From J. Mammal. 48(2), 1967. In German with English summ.] WR 126: 25

Kurt, Fred. FELDBEOBACHTUNGEN UND VERSUCHE ÜBER DAS REVIERVERHALTEN DER REHBÖCKE (CAPREOLUS CAPREOLUS L.). [FIELD OBSERVATIONS AND EXPERIMENTS UPON THE ROEBUCK (CAPREOLUS CAPREOLUS L.).] Rev. Suisse Zool. 73(22): 408-421. Sept. 1966. [From J. Mammal. 48(2), 1967. In German.] WR 126: 25

Lau, D. WERKZEUGGEBRAUCH BEIM KERABAU, BUBALUS ARNEE F. BUBALIS L. [TOOL USE BY THE WATER BUFFALO, BUBALUS ARNEE F. BUBALIS.] Zool. Garten 31(5): 269-271, illus. 1965. [From Biol. Abstr. 47(19), 1966. In German.] WR 126: 25
[Tierpark 41, Berlin, Germany.]

Łukaszewicz, Karol. GATUNEK CERVUS (HYELAPHUS) KUHLII (MÜLLER ET SCHLEGEL, 1844) JUZ NIE ISTNIEJE. [THE SPECIES CERVUS (HYELAPHUS) KUHLII (MÜLLER & SCHLEGEL, 1844) EXISTS NO MORE.] Przegl. Zool. 8(3): 279-301, illus. 1964. [From Biol. Abstr. 47(20), 1966. In Polish with English summ.] WR 126: 25
[Zool. Gard., Breslau, Poland.] A report of the death of presumably the last specimen of C. kuhlii in the Artis Zoo in Amsterdam. This sp. of the Cervidae, unique in Zoological Gardens (London, Amsterdam) has been confined to the little volcanic island of Bavean north of Java. The last individual, a female, was brought to Amsterdam in 1956 and died in 1963.

Nievergelt, Bernhard. UNTERSCHIEDE IN DER SETZZEIT BEIM ALPENSTEINBOCK (CAPRA IBEX L.). [DIFFERENCES IN BREEDING PERIOD AMONG IBEX (CAPRA IBEX L.).] Rev. Suisse Zool. 73(26): 446-454. Sept. 1966. [From J. Mammal. 48(2), 1967. In German with English and French summ.] WR 126: 25

Novikov, G. A., and E. K. Timofeeva. [ECOLOGY OF THE ROE DEER (CAPREOLUS CAPREOLUS L.) IN FOREST-STEPPE OAK FORESTS.] Zool. Zhur. 44(3): 442-451, illus. 1965. [From Biol. Abstr. 47(16), 1966. In Russian with English summ.] WR 126: 25
[Leningrad State Univ., Leningrad, USSR.]

Peek, James M., Allan L. Lovaas, and Ralph A. Rouse. POPULATION CHANGES WITHIN THE GALLATIN ELK HERD, 1932-65. J. Wildl. Mgmt. 31(2): 304-316, 3 figs. Apr. 1967. WR 126: 25
[Univ. Minn., St. Paul.] Abstract: A study was made of population changes within the migratory elk (Cervus canadensis) herd occupying the Gallatin drainage of southwestern Montana and adjacent Yellowstone National Park, using census, harvest, calf-tagging, and tag recovery records for 1932-65. The general population trend was downward at about 2 percent per year. Tag recovery rates and average harvest data for three periods from 1940-55 suggested that harvest intensity increased through the years. Life expectancies for both sexes, as derived from tag recovery data, declined during these years. Aging

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of jaws collected from a 1965 harvest of more than 750 animals, the first heavy harvest in 4 years, showed little change in the life expectancy of males but an increase in the life expectancy of females over that derived from the tag recovery data. This suggested that when the population increased temporarily, females accounted for the greater share. For harvests of over 700 elk from 1945-65, the data showed a trend toward proportionately fewer bulls and more calves. The general decline in population and age structures of both sexes and the trend towards fewer males seemed largely a result of deteriorating winter forage supplies, resulting from excessive grazing by elk for at least 40 years.

Sägesser, H. ÜBER DEN EINFLUSS DER HÖHE AUF EINIGE BIOLOGISCHE ERSCHEINUNGEN BEIM REH (CAPREOLUS C. CAPREOLUS) UND BEI DER GEMSE (RUPICAPRA R. RUPICAPRA). [THE INFLUENCE OF ALTITUDE ON SOME BIOLOGICAL ASPECTS OF THE ROE DEER (CAPREOLUS C. CAPREOLUS) AND THE CHAMOIS (RUPICAPRA R. RUPICAPRA).] Rev. Suisse Zool. 73 (23): 422-433. Sept. 1966. [From J. Mammal. 48(2), 1967. In German.] WR 126: 26

Sikes, S. K. THE ELEPHANT PROBLEM IN AFRICA: RANDOM SLAUGHTER OR SELECTIVE HUSBANDRY? African Wildl. 20(3): 225-237. Sept. 1966. [From J. Mammal. 48 (2), 1967.] WR 126: 26

Sikes, Sylvia K. THE AFRICAN ELEPHANT, LOXODONTA AFRICANA: A FIELD METHOD FOR THE ESTIMATION OF AGE. J. Zool. (London) 150(3): 279-295, 1 fig. + 9 pls. Nov. 1966. WR 126: 26

[Nuffield Inst. Comp. Med., Zool. Soc., London, England.] "An attempt is made here to provide...a method which will enable the worker to identify the molars in wear and to ascribe a provisional laminary age to a given specimen in the field." [Based on 40 elephants collected in Uganda and Kenya.]

Spillett, J. Juan, and Rex S. Zobell. INNOVATIONS IN TRAPPING AND HANDLING PRONGHORN ANTELOPES. J. Wildl. Mgmt. 31(2): 347-351, 3 figs. Apr. 1967. WR 126: 26

[Johns Hopkins Univ., Baltimore, Md.] Abstract: Pronghorn antelopes (Antilocapra americana) were trapped and handled 11 trapping operations in south-central Wyoming; about 160 animals were handled, some several times. The trap was modified from one developed in Colorado. Men on foot, and in vehicles equipped with two-way radios, moved antelopes into a hook-shaped holding area. Men then moved them down the lane into the trap. Burlap panels reduced injuries and the tendency of animals to jump. A catchpen and chute at the end of the corral helped to single out animals. The human voice and rapid or unusual movements disturbed confined animals.

Talanti, S. THE SUBCOMMISSURAL ORGAN OF THE REINDEER (RANGIFER TARANDUS) WITH REFERENCE TO SECRETORY PHENOMENA. Anat. Anz. 119(1): 99-103. 1966. [From J. Mammal. 48(2), 1967.] WR 126: 26

Wandeler, A. URSACHEN DER NEBENNIERENHYPERTROPHIE BEIM REH (CAPREOLUS C. CAPREOLUS). [CAUSES OF THE HYPERTROPHY OF THE ADRENAL GLAND OF THE ROE DEER (CAPREOLUS C. CAPREOLUS).] Rev. Suisse Zool. 73(25): 441-446. Sept. 1966. [From J. Mammal. 48(2), 1967. In German.] WR 126: 26

Yocom, Charles F. ECOLOGY OF FERAL GOATS IN HALEAKALA NATIONAL PARK, MAUI, HAWAII. Am. Midland Nat. 77(2): 418-451, 8 figs. Apr. 1967. WR 126: 26

[Humboldt State Coll., Arcata, Calif.] Present and past numbers, characteristics, effects on vegetation and erosion, welfare in relation to other animals and disease and recommendations for management of feral goats in Haleakala Natl. Park.

DEER (Odocoileus)

Christie, A. H. C., and J. R. H. Andrews. INTRODUCED UNGULATES IN NEW ZEALAND: B. VIRGINIA DEER (ODOCOILEUS VIRGINIANUS) SYSTEMATICS, BREEDING, DISTRIBUTION, DISEASES, ECONOMICS. Tuatara 13(1): 1-8, illus. 1965. [From Biol. Abstr. 47(21), 1966.] WR 126: 27
[New Zealand Forest Serv., Wellington.]

Dechert, James A. A FOOD SHORTAGE FOR DEER ON FORT KNOX? Ky. Happy Hunting Ground 23(1): 4-5, illus. Jan. 1967. WR 126: 27
[Fort Knox, Ky.] Since 1961 the overbrowsed area at Fort Knox has increased and is currently in excess of 50,000 acres--more than half of the deer range on Fort Knox. Harvests have increased from 47 in 1956 to 3,194 in 1965.

Hawkins, Robert E., W. D. Klimstra, Glen Fooks, and John Davis. IMPROVED COLLAR FOR WHITE-TAILED DEER. J. Wildl. Mgmt. 31(2): 356-359, 1 fig. Apr. 1967. WR 126: 27
[Ill. Nat. Hist. Surv., Carbondale.] Abstract: Expansible and nonexpansible collars were constructed from nylon-base vinyl plastic for male and female white-tailed deer (Odocoileus virginianus), respectively, for a study on the Crab Orchard National Wildlife Refuge in southern Illinois. The cost of materials and sewing was $1.70 for a collar for a buck and $0.65 for a collar for a doe. The average observed life of a collar for a buck was 9.2 months, and the maximum life was 17.0 months. The average life of a collar for a doe was 18.6 months; the maximum life was 25.0 months. Collar symbols could be read from a distance of 300 yards with 7 x 35 binoculars and over twice that distance with a 30-power scope.

Haynes, Charles D. FOOD IS THE KEY TO DEER MANAGEMENT. Idaho Wildl. Rev. 19(5): 10-13, illus. Mar.-Apr. 1967. WR 126: 27
Malnutrition in mule deer. Winter loss is greatest among fawns--then bucks--especially the older ones, and then does.

Hesselton, William T. TWO FURTHER INCIDENTS OF POLYOVULATION IN WHITE-TAILED DEER IN NEW YORK. J. Mammal. 48(2): 321. May 1967. WR 126: 27
[N.Y. State Conserv. Dept., Delmar.]

Pogge, Franz L. ELM AS DEER BROWSE. J. Wildl. Mgmt. 31(2): 354-356. Apr. 1967. WR 126: 27
[NE Forest Expt. Sta., Upper Darby, Pa.] Abstract: Sprouts and tops of American elm (Ulmus americana) were preferred woody deer browse on the Allegheny National Forest in northwestern Pennsylvania. More than 90 percent of the succulent sprouts and two-thirds of the available twigs in the tops of trees felled in winter were utilized in the growing season after cutting. Elm was found to sprout vigorously from stumps, and from the boles of trees that were successfully hinged to the stumps. These results are in general contrast to reports in the literature on deer browse in which elm is listed as low in use.

Thomas, Jack Ward, R. M. Robinson, and R. G. Marburger. A ROPE TRUSS FOR RESTRAINING DEER. J. Wildl. Mgmt. 31(2): 359-361, 2 figs. Apr. 1967. WR 126: 27
[NE Forest Expt. Sta., Morgantown, W. Va.] Abstract: It is often necessary for deer to be immobilized for transport when hauling crates are not available. "Hog-tying" deer often results in injury. A rope truss consisting of two leg restrainers and a neck loop proved satisfactory in all respects. Twenty-five deer (Odocoileus virginianus) were trussed in this fashion for periods of 30 min to 6 hours. One deer was injured due to faulty application of the technique.

Whicker, F. W., R. A. Walters, and A. H. Dahl. FALL-OUT RADIONUCLIDES IN COLORADO DEER LIVER. Nature 214(5087): 511-513, 2 figs. 29 Apr. 1967. WR 126: 27
[Colo. State Univ., Fort Collins.] "The deer liver has been shown to accumulate several fall-out radionuclides which are not normally found in other organs and tissues which are commonly assayed. We believe the liver may be a useful bioindicator for environmental contamination by certain cerium, caesium, manganese and ruthenium isotopes."

Bron, Klaus M., H. V. Murdaugh, Jr., J. Eugene Millen, Ronald Lenthall, Philip Raskin, and Eugene D. Robin. ARTERIAL CONSTRICTOR RESPONSE IN A DIVING MAMMAL. Science 152(3721): 540-543, 3 figs. 22 Apr. 1966. WR 126: 28
[Univ. Pittsburgh, Pittsburgh, Pa.] Abstract: Angiograms were obtained in the harbor seal, Phoca vitulina, in air and during diving. During diving there is arterial constriction of the vascular beds of muscle, skin, kidney, liver, spleen, and presumably of all vascular beds except those perfusing the brain and heart. There is sudden constriction and narrowing of muscular arteries close to their origin from the aorta. Constriction of small arterial branches is so intense that blood flow is essentially lost in all involved organs.

Brown, David H., David K. Caldwell, and Melba C. Caldwell. OBSERVATIONS ON THE BEHAVIOR OF WILD AND CAPTIVE FALSE KILLER WHALES, WITH NOTES ON ASSOCIATED BEHAVIOR OF OTHER GENERA OF CAPTIVE DELPHINIDS. Los Angeles County Museum Contrib. Sci. 95: 1-32. 1966. [From Biol. Abstr. 47(21), 1966.] WR 126: 28
[Marineland of the Pacific, Los Angeles, Calif.]

Caldwell, Melba C., David K. Caldwell, and William E. Evans. SOUNDS AND BEHAVIOR OF CAPTIVE FRESHWATER DOLPHINS, INIA GEOFFRENSIS. Los Angeles County Museum Contrib. Sci. 108: 1-24, illus. 1966. [From Biol. Abstr. 47(22), 1966.] WR 126: 28
[Allan Hancock Foundation, Univ. Southern Calif., Los Angeles.] Twelve types of phonations, placed in 4 major categories, were recorded in 688 min. of listening to 8 captive Inia geoffrensis (Blainville). These sounds are discussed and sonagrams of typical ones are presented. Both juveniles and adults were studied under a variety of circumstances. In general, the phonations are less varied, lower in intensity, and of slightly lower frequencies than those observed in most other odontocete cetaceans. Included among the phonations are click trains which when correlated with observed behavior suggest an ability by this species to echolocate. However, the use of this ability may be dependent on learning. Evidence is presented to indicate that vision is the preferred method of environmental exploration, but some tactile sense may also be employed. Data are included to indicate for Inia frequent and precocious sexual play, a general lack of competitive feeding behavior, and a lower incidence of fear responses than demonstrated by the much studied Atlantic bottlenosed dolphin.

Cameron, Austin W. BREEDING BEHAVIOR IN A COLONY OF WESTERN ATLANTIC GRAY SEALS. Canadian J. Zool. 45(2): 161-173, 2 figs. Mar. 1967. WR 126: 28
[McGill Univ., Montreal, Quebec.]

Coulombe, Harry N., Sam H. Ridgway, and William E. Evans. RESPIRATORY WATER EXCHANGE IN TWO SPECIES OF PORPOISE. Science 148(3679): 86-88, 1 fig. 2 July 1965. WR 126: 28
[Univ. Calif., Los Angeles.] Abstract: Measurements of the respiratory water exchanges of Tursiops truncatus and Lagenorhynchus obliquidens indicate that these species lose, respectively, only 30 and 77 percent as much water through evaporation as would terrestrial mammals of the same body weight. Control of temperature and pressure within the respiratory system and a lower ventilation rate account for this relatively small loss of water.

Dawbin, W. H. PORPOISES AND PORPOISE HUNTING IN MALAITA. Australia Nat. Hist. 15(7): 207-211. 15 Sept. 1966. [From J. Mammal. 48(2), 1967.] WR 126: 28
"Solomon Islands."

Ivanov, V. V. [RARE CASES OF DEATH OF SEALS.] Priroda 10: 113. 1959. [From Biol. Abstr. 47(18), 1966, from Referat. Zhur., Biol., 1960, no. 86646. Transl. of Russian abstr.] WR 126: 29

The remains of 7 seals were found in the sands of the dried-up bay Mertvyi Kultuk, 12-15 km from the shore of the Caspian Sea. The animals apparently died when they drifted into the bay with a water current produced by strong sea winds.

Kooyman, Gerald L. MAXIMUM DIVING CAPACITIES OF THE WEDDELL SEAL, LEPTONYCHOTES WEDDELLI. Science 151(3717): 1553-1554, 2 figs. 25 Mar. 1966. WR 126: 29

[Univ. Ariz., Tucson.] Abstract: The probable maximum diving capacities of the Weddell seal were ascertained from observation of 959 dives and measurement of the depths of 381 dives. The deepest dive was 600 meters; the longest submergence was 43 minutes 20 seconds.

Lawrence, Barbara. ANATOMICAL INVESTIGATIONS OF WEDDELL SEALS. Antarctic J. United States 1(5): 218. Sept.-Oct. 1966. [From J. Mammal. 48(2), 1967.] WR 126: 29

Lockley, R. M. THE DISTRIBUTION OF GREY (HALICHOERUS GRYPUS) AND COMMON SEALS (PHOCA VITULINA) ON THE COASTS OF IRELAND. Irish Nat. J. 15(5): 136-143. 1966. [From Biol. Abstr. 47(20), 1966.] WR 126: 29

[Guildown Road, Guilford, Surrey, England.]

Mansfield, Arthur W. DISTRIBUTION OF THE HARBOR SEAL, PHOCA VITULINA LINNAEUS, IN CANADIAN ARCTIC WATERS. J. Mammal. 48(2): 249-257, 4 figs. May 1967. WR 126: 29

[Fisheries Res. Board Canada, Arctic Biol. Sta., P.O. Box 400, Ste. Anne de Bellevue, Quebec.] Abstract: The harbor seal, though normally an animal of open water, ranges as far as 79°N on Ellesmere Island. It remains in the Canadian arctic the year round by residing in swiftly flowing water, both tidal and fresh, and at the edge of the fast ice. It actively ascends rivers, often far from the sea, and will live in lakes the year round where open water is available. This ability suggests that the supposedly land-locked race P. v. mellonae from Upper and Lower Seal Lakes, Ungava, may not have been isolated for any great time and casts doubt on the assertion that subspeciation has occurred from long isolation (5500 years ± 2500) during post-glacial uplift.

McLaren, Ian A. SEALS AND GROUP SELECTION. Ecology 48(1): 105-110. Winter 1967. WR 126: 29

[Dalhousie Univ., Halifax, Nova Scotia.]

Norris, Kenneth S. TRAINED PORPOISE RELEASED IN THE OPEN SEA. Science 147 (3661): 1048-1050. 26 Feb. 1965. WR 126: 29

[Univ. Calif., Los Angeles.] Abstract: A Pacific bottlenose porpoise, Tursiops gilli, was trained for a period of 10 weeks to swim at high speed on command and return to an underwater speaker when a specific sound cue was played. This animal was released in the open sea off Oahu, Hawaii, and worked each day for 7 days. At night it was held in an anchored floating pen. The trainer's control over the animal was probably associated with the controlled feeding of the porpoise, the development of social ties between the porpoise and trainer, and the animal's fear of unknown situations.

Odend'Hal, Stewart, and Thomas C. Poulter. PRESSURE REGULATION IN THE MIDDLE EAR CAVITY OF SEA LIONS: A POSSIBLE MECHANISM. Science 153(3737): 768-769, 2 figs. 12 Aug. 1966. WR 126: 29

[Univ. Calif., Davis.] Abstract: The mucosa lining the cavity of the middle ear of sea lions contains a complex network of venous channels and sinuses. During dives the pressure within the middle ear may be equalized with that in the external auditory meatus either by the distention or depression of the mucosa due to the presence or absence of blood in the sinuses.

Rae, B. B., and W. M. Shearer. SEAL DAMAGE TO SALMON FISHERIES. Mar. Res. Ser. Scot. Home Dep. 1965(2): 1-39. 1965. [From Biol. Abstr. 47(23), 1966.] WR 126: 30
[Dept. Agr. & Fish., Aberdeen, Scotland.]

Schusterman, Ronald J., and Stephen H. Feinstein. SHAPING AND DISCRIMINATIVE CONTROL OF UNDERWATER CLICK VOCALIZATIONS IN A CALIFORNIA SEA LION. Science 150(3704): 1743-1744, 4 figs. 24 Dec. 1965. WR 126: 30
[Stanford Res. Inst., Menlo Park, Calif.] Abstract: A captive sea lion (Zalophus californianus) which had never before produced clicking sounds in the laboratory was first conditioned to vocalize in air and subsequently learned to emit underwater clicks. Clicking was brought under control by differential reinforcement procedures. Vocalization as an indicator response may be useful in the comparative study of discriminative behavior.

Schusterman, Ronald J., Roger Gentry, and James Schmook. UNDERWATER VOCALIZATION BY SEA LIONS: SOCIAL AND MIRROR STIMULI. Science 154(3748): 540-542, 3 figs. 28 Oct. 1966. WR 126: 30
[Stanford Res. Inst., Menlo Park, Calif.] Abstract: Underwater vocal response of three sea lions (Zalophus californianus) increased under conditions of social interaction. When confronted by their mirror images, two animals increased their number of vocalizations, which included "whinny" sounds, barks, buzzing, and varying patterns of click trains. Click vocalizations showed habituation and recovery when the animals were in the presence of the mirror stimulus.

Smith, E. A. NOMENCLATURE FOR SEAL RESEARCH IN BRITAIN. J. Zool. (London) 150(4): 457-462. Dec. 1966. WR 126: 30
[Wellcome Inst., Regent's Park, London, England.] Abstract: A wide terminology is now in use in the study of seals. Terms which are useful for research on Grey seals (Halichoerus grypus) and Common seals (Phoca vitulina) in Great Britain are redefined.

Smith, E. A. A NOTE ON EVIDENCE FOR THE ONSET OF SEXUAL ACTIVITY IN MALE GREY SEALS. J. Zool. (London) 150(4): 509-511, 1 fig. + 2 pls. Dec. 1966. WR 126: 30
[Wellcome Inst., Regent's Park, London, England.]

Smith, E. A. A REVIEW OF THE WORLD'S GREY SEAL POPULATION. J. Zool. (London) 150(4): 463-489, 12 figs. Dec. 1966. WR 126: 30
[Wellcome Inst., Regent's Park, London, England.] Abstract: A review is made of current information on the numbers of Grey seal (Halichoerus grypus) throughout its range. The world stock is estimated at 52,500 with 5000 in the north-west Atlantic, 42,500 in the north-east Atlantic (34,200 in Great Britain) and 5000 in the Baltic.

MAMMALS--OTHER GROUPS

Eisner, Thomas, and Joseph A. Davis. MONGOOSE THROWING AND SMASHING MILLIPEDES. Science 155(3762): 577-579, 2 figs. 3 Feb. 1967. WR 126: 30
[Cornell Univ., Ithaca, N.Y.] Abstract: African millipedes of the genus Sphaerotherium coil into tight spheres when disturbed. Their tough skeletal armor offers protection against some predators, but not against the African banded mongoose Mungos mungo, which smashes them by hurling them against rock.

Godfrey, Gillian K. [= Mrs. P. Crowcroft]. DAILY TORPOR IN THE MARSUPIAL MOUSE, SMINTHOPSIS LARAPINTA (SPENCER). Nature 212(5067): 1248-1249, 1 fig. 10 Dec. 1966. WR 126: 30
[5 Blythe St., Adelaide, South Australia.]

Sade, D. S., and R. W. Hildrech. NOTES ON THE GREEN MONKEY (CERCOPITHECUS AETHIOPS SABEUS) ON ST. KITTS, WEST INDIES. Caribbean J. Sci. 5: 67-81. 1965. [From Auk 84(1), 1967.] WR 126: 31

A feral population established around 1700 now numbers ca. 1,500 individuals. These monkeys probably exterminated the bullfinch, Loxigilla portoricensis grandis. Red-tailed hawks may prey on infant monkeys.

Schauenberg, Paul. LA GENETTE VULGAIRE (GENETTA GENETTA L.), RÉPARTITION GÉOGRAPHIQUE EN EUROPE. [THE GEOGRAPHICAL DISTRIBUTION OF THE COMMON GENET (GENETTA GENETTA) IN EUROPE.] Mammalia 30(3): 371-396. Sept. 1966. [From J. Mammal. 48(2), 1967. In German with English summ.] WR 126: 31

BIRDS--GENERAL

Collins, Charles Thompson. THE COMPARATIVE BIOLOGY OF TWO SPECIES OF SWIFTS IN TRINIDAD, W. I. Ph.D. thesis, Univ. Fla. 110 p. 1966. [From Dissertation Abstr. 27(8B), 1967.] WR 126: 31

"Chaetura brachyura and Cypseloides rutilus."

DeWolfe, Barbara Blanchard. BIOLOGY OF WHITE-CROWNED SPARROWS IN LATE SUMMER AT COLLEGE, ALASKA. Condor 69(2): 110-132, 8 figs. Mar.-Apr. 1967. WR 126: 31

[Univ. Calif., Santa Barbara.] Presents data for Zonotrichia leucophrys gambelii on banding, behavior, body weight, gonad dimensions, molt, and fat during the postbreeding period at College, Alaska.--Courtesy/ Paul A. Stewart.

Eggers, Jens, and Wilhelm Lemke. ORNITHOLOGISCHE BBOBACHTUNGEN IN DER TURKEI. [ORNITHOLOGICAL OBSERVATIONS IN TURKEY.] Ornithol. Mitteil. 16(9): 185-188. Sept. 1964. In German. WR 126: 31

[Sierichstrasse 98, Hamburg, Germany.]

Greer, J. K., and Marjorie Greer. NOTES ON HATCHING AND GROWTH OF THE SOUTHERN LAPWING IN CHILE. Auk 84(1): 121-122. Jan. 1967. WR 126: 31

[Univ. Okla., Norman.] "Belanopterus chilensis."--Courtesy/ Paul A. Stewart.

McCaskie, R. Guy, Richard Stallcup, and Paul DeBenedictis. THE OCCURRENCE OF CERTAIN FLYCATCHERS IN CALIFORNIA. Condor 69(1): 85-86. Jan.-Feb. 1967. WR 126: 31

[Tahoe City, Calif.] Observations on eastern kingbird (Tyrannus tyrannus), thick-billed kingbird (T. crassirostris), tropical kingbird (T. melancholicus), scissor-tailed flycatcher (Muscivora forficata), and eastern phoebe (Sayornis phoebe).--Courtesy/ Paul A. Stewart.

Olney, P. J. S. BERRIES AND BIRDS. Birds 1: 98-99. 1966. [From Ibis 109 (1), 1967.] WR 126: 31

A total of 133 different plant species and subspecies were recorded as having their berries, fruits or seeds taken by birds.

Schubart, Otto, Alvaro C. Aguirre, and Helmut Sick. CONTRIBUIÇÃO PARA O CONHECIMENTO DA ALIMENTAÇÃO DAS AVES BRASILEIRAS. [CONTRIBUTION FOR THE KNOWLEDGE ON THE NUTRITION OF BRAZILIAN BIRDS.] Arq. Zool. Estado São Paulo 12: 95-240. 1965. [From Biol. Abstr. 47(22), 1966. In Portuguese with German summ.] WR 126: 31

BIRDS--TECHNIQUES

Brun, Einar. FUGLETAKSERING VED ØSTENS JØVANNET. [BIRD CENSUS-TAKING NEAR LAKE ØSTENSJØVANN.] Sterna 6(1): 1-4. 1964. [From Biol. Abstr. 47(24), 1966. In Norwegian with English summ.] WR 126: 31

BIRDS--TECHNIQUES--Continued

Bruns, Herbert. AVIFAUNISTIK ALS GRUNDLAGE ORNITHOLOGISCHER WISSENSCHAFT UND PRAXIS. WAS ERWARTEN WIR HEUTE VON EINER MODERNEN AVIFAUNA? [AVIFAUNISTICS AS THE BASIS FOR ORNITHOLOGICAL KNOWLEDGE AND PRACTICE. WHAT DO WE EXPECT TODAY FROM THE MODERN AVIFAUNA?] Ornithol. Mitteil. 15(1): 3-17. Jan. 1963. In German. WR 126: 32
[Postfach 169, Wiesbaden, Germany.]

Foster, Mercedes S. PTERYLOGRAPHY AND AGE DETERMINATION IN THE ORANGE-CROWNED WARBLER. Condor 69(1): 1-12, 4 figs. Jan.-Feb. 1967. WR 126: 32
[Calif. State Polytechnic Coll., Pomona.] "Vermivora celata."--Courtesy/ Paul A. Stewart.

Grant, P. R. FURTHER INFORMATION ON THE RELATIVE LENGTH OF THE TARSUS IN LAND BIRDS. Postilla no. 98. p. 1-13. 1966. [From Auk 84(1), 1967.] WR 126: 32

Lasiewski, Robert C., and William R. Dawson. A RE-EXAMINATION OF THE RELATION BETWEEN STANDARD METABOLIC RATE AND BODY WEIGHT IN BIRDS. Condor 69 (1): 13-23, 4 figs. Jan.-Feb. 1967. WR 126: 32
[Univ. Calif., Los Angeles.] Passerine birds have a higher weight-specific metabolic rate than nonpasserines, although the weight-metabolism regression coefficients are virtually identical. The nonpasserine equation spans the full size range of living birds, from small hummingbirds through the ostrich and is similar to accepted equations for mammals.--From summ. Courtesy/ Paul A. Stewart.

Nef, L. STUDIEDAG OVER HET GEBRUIK VAN NESTKASTEN IN DE ORNITHOLOGIE. [THE USE OF BREEDING CAGES IN ORNITHOLOGY.] Gerfaut 52(1): 3-28, 29-53. 1963. [From Biol. Abstr. 47(15), 1966. In Flemish and French.] WR 126: 32
Techniques used by Belgian ornithologists working in different environments are described. General information on construction materials, cleaning, maintenance, placement and control of predators is given. The breeding cages can be used for special data on activity, for observation and photography and for ringing experiments. Specific problems met with certain species are described.

Sunkel, Werner. WIE DER VOGEL-BERINGER LEICHT EINEN BEHÄLTER FÜR LOCKVÖGEL BAUT. [HOW THE BIRD-BANDER CAN EASILY BUILD A CAGE FOR A DECOY BIRD.] Ornithol. Mitteil. 16(12): 257, 1 fig. Dec. 1964. In German. WR 126: 32
[Tann (Rhön), Germany.] A tepee-like cage was made by thrusting stakes into the ground and fastening the stakes together at their upper ends.

BIRDS--MORPHOLOGY & PHYSIOLOGY

Cowles, Graham S. THE PALATE OF THE RED-NECKED NIGHTJAR CAPRIMULGUS RUFICOLLIS WITH A DESCRIPTION OF A NEW FEATURE. Ibis 109(2): 260-265, 3 figs. Apr. 1967. WR 126: 32
[British Museum (Nat. Hist.), London, England.]

Fabila-Herrerias, B. ESTUDIO ANATOMICO COMPARATIVO DE LA LARINGE DE ALGUNAS AVES DE MEXICO. [COMPARATIVE ANATOMIC STUDY OF THE LARYNX (SYRINX) OF SOME MEXICAN BIRDS (THESIS).] Univ. Nac. Mexico, thesis. 217 p., illus. 1964. [From Biol. Abstr. 47(22), 1966. In Spanish.] WR 126: 32

Foster, Mercedes S. MOLT CYCLES OF THE ORANGE-CROWNED WARBLER. Condor 69 (2): 169-200, 6 figs. Mar.-Apr. 1967. WR 126: 32
[Calif. State Polytechnic Coll., Pomona.] "Vermivora celata."--Courtesy/ Paul A. Stewart.

BIRDS--MORPHOLOGY & PHYSIOLOGY--Continued

Gromadzki, Maciej. VARIABILITY OF EGG-SIZE OF SOME SPECIES OF THE FOREST BIRDS. Ekologia Polska--Ser. A 14(4): 99-109, 9 figs. 1966. In English with Polish summ. WR 126: 33
[Inst. Ecol., Polish Acad. Sci., Turew, pow. Kościan, Poland.]

Harrison, C. J. O. NON-MELANIC, CAROTENISTIC AND ALLIED VARIANT PLUMAGES IN BIRDS. Bull. British Ornithol. Club 83: 90-96. 1963. [From Ibis 109(1), 1967.] WR 126: 33

Kendeigh, S. Charles, and Harold E. Wallin. SEASONAL AND TAXONOMIC DIFFERENCES IN THE SIZE AND ACTIVITY OF THE THYROID GLANDS IN BIRDS. Ohio J. Sci. 66(4): 369-379. 1966. [From Biol. Abstr. 47(20), 1966.] WR 126: 33
[Univ. Ill., Champaign.]

King, J. R., and D. S. Farner. STUDIES OF FAT DEPOSITION IN MIGRATORY BIRDS. Annals N.Y. Acad. Sci. 131: 422-440. 1965. [From Ibis 109(1), 1967.] WR 126: 33
A most useful review.

Lasiewski, Robert C., and Richard J. Lasiewski. PHYSIOLOGICAL RESPONSES OF THE BLUE-THROATED AND RIVOLI'S HUMMINGBIRDS. Auk 84(1): 34-48, 7 figs. Jan. 1967. WR 126: 33
[Univ. Calif., Los Angeles.] Courtesy/ Paul A. Stewart.

Lewis, R. Alan. "RESTING" HEART AND RESPIRATORY RATES OF SMALL BIRDS. Auk 84(1): 131-132. Jan. 1967. WR 126: 33
[Univ. Wash., Seattle.] Contains data for the following: yellow-shafted flicker, yellow-bellied flycatcher, blue jay, catbird, brown thrasher, robin, and wood thrush.--Courtesy/ Paul A. Stewart.

Penney, R. L. MOLT IN THE ADELIE PENGUIN. Auk 84(1): 61-71, 3 figs. Jan. 1967. WR 126: 33
[Rockefeller Univ., New York, N.Y.] Courtesy/ Paul A. Stewart.

Scott, R. E. WEIGHTS AND MEASUREMENTS OF MIGRANT PASSERINES, SEPTEMBER 1962. Vår Fågelvärld 24: 156-171. 1965. [From Ibis 109(1), 1967.] WR 126: 33
Weights and measurements of about 750 individuals of ten species caught in southern Sweden are tabulated and analysed as to age and sex differences, relation of wing length to body weight, and daily weight variations. Comparison is also made with similar data for birds departing from southern England.

Turček, František J. ON PLUMAGE QUANTITY IN BIRDS. Ekologia Polska--Ser. A 14(32): 617-634, 1 fig. 1966. In English with Polish summ. WR 126: 33
[Inst. Landscape Biol., Slovak Acad. Sci., Banská Štiavnica, Czechoslovakia.]
Abstract: The plumage weight of 249 individual birds of 91 species and 34 families, chiefly Palearctic, has been measured and expressed as percentage of the total body weight (without stomach content). A negative allometry (allomorphosis) has been found. A significant negative correlation was found between log of body weight and the percentage of plumage weight. Also, a significant positive correlation has been found between the relative body surface and the percentage of plumage weight. On the basis of analysis of 83 birds of 47 species the dry matter content of the avian body has been found to be 32%, while the water content was 68%.

BIRDS--BEHAVIOR & MIGRATION

Abro, Arnold. FUGL SOM APNER MELKEFLASKER. [BIRDS WHICH OPEN MILK BOTTLES.] Sterna 6(2): 81-85. 1964. [From Biol. Abstr. 47(20), 1966. In Swedish with English summ.] WR 126: 33

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Bauer, Zdenek, and Josef Tichy. HINIZDENI BUDNICKA LESNIHO (PHYLLOSCOPUS SIBILATRIX BECHSTEIN) V NEKTERYCH BIOGEOCENOZACH VYCHODNI CASTI PODHURI HRUBEHO JESENIKU. [THE BREEDING OF THE WOOD WARBLER (PHYLLOSCOPUS SIBILATRIX BECHSTEIN) IN SEVERAL BIOGEOCOENOSES OF THE EASTERN MOUNTAIN REGION OF HRUBY JESENIK.] Zool. Listy 15(2): 147-160, illus. 1966. [From Biol. Abstr. 47(22), 1966. In Czech with German summ.] WR 126: 34
[Katedra Zool., Brno, Czechoslovakia.]

Blume, Dieter. MORGENDLICHE UND ABENDLICHE BEOBACHTUNGEN IN SPECHTREVIEREN. [MORNING AND EVENING OBSERVATIONS OF WOODPECKER TERRITORIES.] Ornithol. Mitteil. 14(10): 181-187, illus. Oct. 1962. In German. WR 126: 34
[Ernst-Leinbach-Strasse 8, Gladenbach/Hessen, Germany.] "Dendrocopus major, D. medius and Picus viridis."

Boswall, J. THE ROOSTING OF THE PIED WAGTAIL IN DUBLIN. Bull. British Ornithol. Club 86: 131-140. 1966. [From Ibis 109(1), 1967.] WR 126: 34

Bruns, Herbert. ZWEI KOHLMEISENBRUTEN (PARUS MAJOR) ZUR GLEICHEN ZEIT AM GLEICHEN BAUM. [TWO GREAT TIT (PARUS MAJOR) BROODS AT THE SAME TIME IN THE SAME TREE.] Ornithol. Mitteil. 15(4): 87-88, 2 figs. Apr. 1963. In German. WR 126: 34
[Postfach 169, Wiesbaden, Germany.] Three nesting boxes were placed at about the same level on a tree trunk and two of these were used by Parus major.

Busch, Wilhelm. EIN SPÄTSOMMERSCHLAFPLATZ DER SCHAFSTELZE (MOTACILLA FLAVA L.) AM NIEDERRHEIN. [A LATE-SUMMER ROOST OF THE YELLOW WAGTAIL (MOTACILLA FLAVA L.) IN THE LOWER RHINE.] Ornithol. Mitteil. 14(7): 132-133. July 1962. In German. WR 126: 34
[Kreuzstrasse 3, Wesel/Niederrhein, Germany.]

Creutz, Gerhard. BEMERKENSWERTE BRUTBIOLOGISCHE FESTSTELLUNGEN II. [NOTEWORTHY BREEDING BIOLOGY STATEMENTS. II.] Ornithol. Mitteil. 14(4): 64-66. Apr. 1962. In German. WR 126: 34
[Vogelschutzstation Neschwitz/Sachsen, Germany.] Concerning Ficedula hypoleuca, Phoenicurus phoenicurus and Jynx torquilla.

De Ridder, M. LA MIGRATION DES OISEAUX. II. ETUDE EXPERIMENTALE DE LA MIGRATION. [MIGRATION OF BIRDS. II. EXPERIMENTAL STUDY OF MIGRATION.] Nat. Belg. Bull. Mens. 46(6): 283-297, illus. 1965. [From Biol. Abstr. 47(19), 1966. In French.] WR 126: 34

Edberg, Ragnar. FAGELSTRAECKET GENOM KALMARSUND 1961. [MIGRATION THROUGH THE KALMAR SOUND IN 1961.] Vår Fågelvärld 24(2): 97-106. 1965. [From Biol. Abstr. 47(16), 1966. In Swedish with English summ.] WR 126: 34

Emlen, Stephen T. ORIENTATION OF ZUGUNRUHE IN THE ROSE-BREASTED GROSBEAK, PHEUCTICUS LUDOVICIANUS. Condor 69(2): 203-205, 1 fig. Mar.-Apr. 1967. WR 126: 34
[Cornell Univ., Ithaca, N.Y.] Movements of a caged bird showed a distinct southerly orientation.--Courtesy/ Paul A. Stewart.

Evans, P. R. MIGRATION AND ORIENTATION OF PASSERINE NIGHT MIGRANTS IN NORTHEAST ENGLAND. J. Zool. (London) 150(3): 319-369, 7 figs. Nov. 1966. WR 126: 34
[Edward Grey Inst., Oxford, England.]

Fischer, Karl. ERSTANKUNFT UND SANGESBEGINN DER VÖGEL IM KREISGEBIET REUTLINGEN (WÜRTTBG.) 1925-1961. [ARRIVAL OF BIRDS AND DATE FOR BEGINNING OF SONG FOR BIRDS IN THE VICINITY OF REUTLINGEN (WÜRTTEMBERG) 1925-1961.] Ornithol. Mitteil. 15(4): 75-78. Apr. 1963. In German. WR 126: 34
[Elsterweg 11, Metzingen (Württemberg), Germany.] Dates are given for 64 spp. for the period 1925-1961.

Gramza, Anthony F. RESPONSES OF BROODING NIGHTHAWKS TO A DISTURBANCE STIMULUS. Auk 84(1): 72-86, 4 figs. Jan. 1967. WR 126: 35
[Univ. Wis., Madison.] With observations on distances and directions incubating nighthawks (Chordeiles minor) moved from their nests when flushed by an approaching observer.--Courtesy/ Paul A. Stewart.

Gruys-Casimir, Elisabeth M. ON THE INFLUENCE OF ENVIRONMENTAL FACTORS ON THE AUTUMN MIGRATION OF CHAFFINCH AND STARLING: A FIELD STUDY. Arch. Neer. Zool. 16(2): 175-279, illus. 1965. [From Biol. Abstr. 47(20), 1966.] WR 126: 35
[Inst. Ecol. Res., Arnhem, Netherlands.]

Hasse, Heinz. WETTERFLUCHT DES KIEBITZ (VANELLUS VANELLUS). [RELATION OF WEATHER TO MIGRATION OF THE LAPWING (VANELLUS VANELLUS).] Ornithol. Mitteil. 15(2): 29-30. Feb. 1963. In German. WR 126: 35
A large migration of lapwings was noted on 26 Mar. 1962. Movement was from a high pressure area to a low one in advance of a storm. No migration was observed on the following day.

Hladik, Bohuslav. HNIZDENI A PODZIMNI PRUTAH PTACTVA V LESE BREZINE U POLNĚ. PRISPEVEK K EKOLOGII PTAKU JEHLICNATYCH LESU CESKOMORAVSKE VYSOCINY, II. CAST. [NESTING AND FALL MIGRATION OF BIRDS IN THE BREZINA FOREST NEAR POLNA. CONTRIBUTION TO THE ECOLOGY OF BIRDS OF THE PINE WOODS OF THE CESKOMORAVSKA VYSOCINA.] Zool. Listy 14(1): 29-36. 1965. [From Biol. Abstr. 47(16), 1966. In Czech with German summ.] WR 126: 35
[Museum Polna, Jihlava, Czechoslovakia.]

Hollerbach, Willi. BEMERKENSWERTE BRUTVORKOMMEN IN NORDOSTBADEN. [NOTEWORTHY BREEDING RECORDS (OF BIRDS) FOR NORTHEASTERN BADEN.] Ornithol. Mitteil. 14(1): 1-6, 5 figs. Jan. 1962. In German. WR 126: 35
For "Emberiza hortulana, E. schoeniclus, Anthus campestris, Lanius senator, Muscicapa albicollis, Turdus pilaris, Saxicola torquata, Podiceps ruficollis and Vanellus vanellus."

Kale, Herbert W. AGGRESSIVE BEHAVIOR BY A MIGRATING CAPE MAY WARBLER. Auk 84(1): 120-121. Jan. 1967. WR 126: 35
[Entomol. Res. Center, P.O. Box 308, Vero Beach, Fla.] In a situation of food scarcity, observation was made of a male Cape May warbler (Dendroica tigrina) chasing others of the same and different species of warblers from a presumed food supply.--Courtesy/ Paul A. Stewart.

Mester, Horst. ÜBER DAS FLUGBADEN DER TRINGEN. [ON THE FLIGHT-BATHING OF THE TRINGINAE.] Ornithol. Mitteil. 16(10): 201-204, illus. Oct. 1964. In German. WR 126: 35
[Ruschenfeld 57, Roxel/Münster, Germany.]

Morse, Douglass H. FORAGING RELATIONSHIPS OF BROWN-HEADED NUTHATCHES AND PINE WARBLERS. Ecology 48(1): 94-103. Winter 1967. WR 126: 35
[Univ. Md., College Park.] Winter studies of Sitta pusilla and Dendroica pinus made in La. during 1963-65. While in flocks brown-headed nuthatches foraged most heavily on the distal parts of limbs and on twigs, pine warblers on proximal parts of limbs. When alone, brown-headed nuthatches foraged more heavily on trunks and proximal parts of limbs than they did when with pine warblers.--From abstr. Courtesy/ Paul A. Stewart.

Ovchinnikova, N. P. [DEVELOPMENT OF THE DEFENSE AND FEEDING REACTIONS IN BIRDS.] Vestnik Leningr. Univ. Ser. Biol. 20(3): 67-70. 1965. [From Biol. Abstr. 47(20), 1966. In Russian with English summ.] WR 126: 35

Parker, S. A. NIDIFICATION OF THE GENUS MELANOCHARIS SCLATER (DICAEIDAE). Bull. British Ornithol. Club 83: 109-112. 1963. [From Ibis 109(1), 1967.] WR 126: 35

Parker, S. A. A NOTE ON THE HABITS OF MAYRORNIS SCHISTACEUS MAYR (MUSCICAPIDAE) OF THE SOUTHWEST PACIFIC. Bull. British Ornithol. Club 83: 159-161. 1963. [From Ibis 109(1), 1967.] WR 126: 36

Pfeifer, S., and W. Keil. UNTERSUCHUNGEN ÜBER DIE FÜTTERUNGSFREQUENZ EINIGER SINGVOGELARTEN. [STUDIES OF THE FEEDING FREQUENCY OF SOME SONGBIRDS.] Ornithol. Mitteil. 14(2): 21-26, 2 figs. Feb. 1962. In German. WR 126: 36
For Parus major, P. caeruleus, Phoenicurus phoenicurus, Ficedula hypoleuca, Sturnus vulgaris and Erithacus rubecula the number of feedings were distinctly higher in the forenoon than in the afternoon.

Power, Dennis M. EPIGAMIC AND REPRODUCTIVE BEHAVIOR OF ORANGE-CHINNED PARAKEETS IN CAPTIVITY. Condor 69(1): 28-41, 5 figs. Jan.-Feb. 1967. WR 126: 36
[Univ. Kans., Lawrence.] "Brotogeris jugularis."--Courtesy/ Paul A. Stewart.

Rappe, A. NOTES SUR LE PASSAGE NOCTURNE DES GRIVES EN BELGIQUE. [NOTES ON THE NOCTURNAL PASSAGE OF THRUSHES IN BELGIUM.] Gerfaut Rev. Sci. Belg. Ornithol. 54(3): 338-361, illus. 1964. [From Biol. Abstr. 47(18), 1966. In French with Dutch summ.] WR 126: 36

Ryabov, V. F. [FEEDING HABITS OF THE HOOPOE (UPUPA E. EPOPS) IN THE STEPPES IN NORTHERN KAZAKHSTAN.] Vestnik Moskov. Univ. Ser. VI Biol. Pochvoved. 6: 13-15. 1965. [From Biol. Abstr. 47(21), 1966. In Russian.] WR 126: 36

Scheer, Georg. DIE FRÜHGESANG DER VÖGEL. [THE MORNING SINGING OF BIRDS.] Ornithol. Mitteil. 16(8): 162-170, 6 figs. Aug. 1964. In German. WR 126: 36
[Friedensplatz 1, Darmstadt, Germany.] A summary of an earlier article by Scheer (Biol. Abhandlung 3/4: 1-68. 1952). The present paper was written to make the material more readily available.

von Toll, Eduard. ERSTANKUNFT DER ZUGVÖGEL IM SÜDLICHEN SCHAUMBURG-LIPPE 1950-1958. [ARRIVAL OF MIGRANT BIRDS IN SOUTHERN SCHAUMBURG-LIPPE 1950-1958.] Ornithol. Mitteil. 14(3): 51-54. Mar. 1962. WR 126: 36
[Holtland 159, Kr. Leer/Ostfriesland, Germany.] Most arrival dates for 30 spp. were found to be correlated with air temperatures.

Weise, Charles M. CASTRATION AND SPRING MIGRATION IN THE WHITE-THROATED SPARROW. Condor 69(1): 49-68, 7 figs. Jan.-Feb. 1967. WR 126: 36
[Univ. Wis., Milwaukee.] Poststimulus castrations of six birds performed after they had been exposed to artificial photostimulation had little permanent effect on the development of the spring migratory condition, as determined by fat deposition, body weight increase, and Zugunruhe. On the other hand prestimulus castrations of nine birds, performed while the birds were on short winter daylengths, effectively suppressed the development of the migratory condition when the birds were subsequently photostimulated. In both types of experiments castration resulted in the intensification of a late-night component of Zugunruhe similar to that also occurring in normal birds at the time of gonadal regression.--From summ. Courtesy/ Paul A. Stewart.

West, George C. NUTRITION OF TREE SPARROWS DURING WINTER IN CENTRAL ILLINOIS. Ecology 48(1): 58-67, 5 figs. Winter 1967. WR 126: 36
[Univ. Alaska, College.] Grass seeds, primarily Setaria spp., made up 77% of the diet of tree sparrows (Spizella arborea) collected near Urbana, Illinois. The birds selected seeds of low energy content compared with other seeds available. The heat of combustion averaged 4690 cal/g. dry weight. The average energy requirement of wild tree sparrows during winter was determined to be 27.38 kcal/bird/day or approximately 7.88 g of seeds per day. It is possible for individual species of seeds to support 10 to 20 tree sparrows per hectare for the winter season in Illinois.--From abstr. Courtesy/ Paul A. Stewart.

Willson, Mary F. NOTES ON THE INTERSPECIFIC BEHAVIORAL RELATIONSHIPS OF MARSH-NESTING PASSERINES. Auk 84(1): 118-120. Jan. 1967. WR 126: 37
[Univ. Ill., Champaign.] "Agelaius phoeniceus, Quiscalus quiscula, Telmatodytes palustris, Melospiza georgiana, Melospiza melodia, Dendroica petechia, and Geothlypis trichas."--Courtesy/ Paul A. Stewart.

Alm, B., H. Myhrberg, E. Nyholm, and S. Svensson. DENSITIES OF BIRDS IN ALPINE HEATHS. Vår Fågelvärld 25: 193-201. 1966. [From Ibis 109(1), 1967.] WR 126: 37

Böcker, U. BEMERKUNGEN ZUR VOGELWELT DER ORKNEYINSEL HOY. [REMARKS ON THE BIRDLIFE OF THE ORKNEY ISLAND OF HOY.] Ornithol. Mitteil. 16(1): 2-12, illus. Jan. 1964. In German. WR 126: 37
[Staufenstrasse 1, Münster i. W., Germany.] Annotated list, breeding biology, ecology, and ethology.

Bruns, H. DIE VOGELWELT DES OHLSDORFER FRIEDHOFS (HAMBURG). [THE BIRDS OF OHLSDORFER FRIEDHOFS (HAMBURG).] Ornithol. Mitteil. 16(5): 93-106. May 1964. In German. WR 126: 37
[Postfach 169, Wiesbaden, Germany.] Annotated list of 138 spp.

Gilliard, E. T., and M. LeCroy. BIRDS OF THE MIDDLE SEPIK REGION, NEW GUINEA. Bull. Am. Museum Nat. Hist. 132: 247-276. 1966. [From Auk 84 (1), 1967.] WR 126: 37

Harwin, R. M. A LIST OF THE BIRDS FOUND IN THE VICINITY OF FORT VICTORIA. South African Avifauna Ser., Percy Fitzpatrick Inst. African Ornithol. no. 45. 40 p. + 1 map. 1967. Price 50¢. WR 126: 37
List annotated as to habitats and status.

Höppner, Gerhard. DER BRUTBESTAND EINER LIGUSTERHECKE. [THE BREEDING BIRD POPULATION IN A PRIVET HEDGE.] Ornithol. Mitteil. 14(7): 134. July 1962. WR 126: 37
[Gellerstrasse 58, Bremen, Germany.] A 3-yr. study of 5000 m of nesting in hedges. A total of 22 nests with 88 eggs. Only 6 of the nests were successful. Sylvia borin, S. corruca and Carduelis carduelis were the nesting species.

Irwin, M. P. Stuart, and C. W. Benson. NOTES ON THE BIRDS OF ZAMBIA: PART II. Arnoldia 2(37): 1-21. 7 Dec. 1966. WR 126: 37

Irwin, M. P. Stuart, and C. W. Benson. NOTES ON THE BIRDS OF ZAMBIA: PART III. Arnoldia 3(4): 1-30. 1 Feb. 1967. WR 126: 37

Joensen, Anders Holm. EN UNDERSOGELSE AF FUGLEBESTANDEN I FIRE LOVSKOV-SOMRADER PA ALS I 1962 OG 1963. [AN INVESTIGATION ON BIRD POPULATION IN FOUR DECIDUOUS FORESTS AREAS ON ALS (DENMARK) 1962 AND 1963.] Dansk Ornithol. Forenings Tidsskr. 59(3/4): 115-186, illus. 1965. [From Biol. Abstr. 47(24), 1966. In Danish with English summ.] WR 126: 37

Kikkawa, Jiro. POPULATION DISTRIBUTION OF LAND BIRDS IN TEMPERATE RAINFOREST OF SOUTHERN NEW ZEALAND. Trans. Roy. Soc. New Zealand Zool. 7(17): 215-277, illus. 1966. [From Biol. Abstr. 47(15), 1966.] WR 126: 37
[Univ. Queensland, Brisbane, Queensland, Australia.]

Kinzelbach, Ragnar. BEITRÄGE ZUR AVIFAUNA DES NEUSIEDLER SEES. [CONTRIBUTION TO THE AVIFAUNA OF NEUSIEDLER LAKE.] Ornithol. Mitteil. 14(10): 193-194. Oct. 1962. In German. WR 126: 37
[Königstrasse 21, Germersheim, Germany.]

Luken, Emil. YNGLEFUGLENE PA NORD-FUGLOY, NORD-NORGE, DERES UNBREDELSE OG ANTAL. [THE BREEDING BIRDS ON NORD-FUGLOY (NORTH BIRD ISLAND) IN NORTHERN NORWAY: THEIR DISTRIBUTION AND NUMBERS.] Dansk Ornithol. Forenings Tidsskr. 58(4): 165-192, illus. 1965. [From Biol. Abstr. 47(18), 1966. In Danish with English summ.] WR 126: 38

McClure, H. Elliott. COMPARISON OF THE PERIODS OF RESIDENCY OF SOME MIGRANT BIRDS COMMON TO JAPAN AND MALAYA. Misc. Rept. Yamashina's Inst. Ornithol. Zool. 4(3/4): 149-162. 1965. [From Biol. Abstr. 47(24), 1966.] WR 126: 38

[Migratory Animal Pathol. Surv., San Francisco, Calif.] Annual population trends for 14 spp. of birds resident in both Malaya and Japan are figured and discussed. They were tallied in the respective habitat in which they were common, and the populations are compared by monthly density.--Auth. summ.

Merkel, Martin. ZUM VOGELBESTAND EINES HAUSGARTENS IM STADTRANDGEBIET. [BIRDS OF A FAMILY GARDEN IN A CITY SUBURB.] Ornithol. Mitteil. 14(6): 101-105, illus. June 1962. In German. WR 126: 38

[Hamm, Westfalen, Germany.] Listing of 10 breeding spp., 33 transients and 4 wintering spp. for Hamm-in-Westfalen.

Ogasawara, Ko. THE ANALYSIS OF THE MIXED FLOCK OF THE FAMILY PARIDAE IN THE BOTANICAL GARDEN OF TOHOKU UNIVERSITY, SENDAI. I. SEASONAL CHANGE OF THE FLOCK FORMATION. Sci. Rept. Tohoku Univ. Ser. IV Biol. 31(3): 167-180, illus. 1965. [From Biol. Abstr. 47(24), 1966.] WR 126: 38

[Tohoku Univ., Sendai, Japan.]

Pearson, David L., and Jens W. Knudsen. AVIFAUNAL RECORDS FROM ENIWETOK ATOLL, MARSHALL ISLANDS. Condor 69(2): 201-203. Mar.-Apr. 1967. WR 126: 38

[Pacific Lutheran Univ., Tacoma, Wash.] Observations on 30 spp.--Courtesy/ Paul A. Stewart.

Rashkevich, N. A. [ECOLOGY OF SOME PASSERINE BIRDS FOUND NEAR THE LOWER AMUR RIVER.] Zool. Zhur. 44(10): 1532-1537. 1965. [From Biol. Abstr. 47(18), 1966. In Russian with English summ.] WR 126: 38

[Komsomol'sk-na-Amure State Pedagog. Inst., Komsomol'sk-na-Amure, USSR.]

Soikkeli, Martti. ON THE STRUCTURE OF THE BIRD FAUNA ON SOME COASTAL MEADOWS IN WESTERN FINLAND. Ornis Fennica 42(4): 101-111. 1965. [From Biol. Abstr. 47(24), 1966.] WR 126: 38

[Univ. Turku, Turku, Finland.]

von Lehmann, E. VOGELBESUCHE AUF EINEM OBSTBAUM. [BIRD VISITORS ON A FRUIT TREE.] Ornithol. Mitteil. 14(10): 187-190. Oct. 1962. In German. WR 126: 38

[Zool. Forschungsinstitut & Museum Alexander Koening, Bonn, Germany.]

Williamson, Kenneth. A BIRD COMMUNITY OF ACCRETING SAND DUNES AND SALT MARSH. British Birds 60(4): 145-157, 1 fig. Apr. 1967. WR 126: 38

Thirty-five species holding territory on sand dunes are listed and an attempt is made to correlate the bird colonization with the accretion of land and the plant succession. A comparison is made of the densities of 7 spp. with densities recorded in a variety of other habitats.

Wobus, Ulrich. BEMERKENSWERTE BEOBACHTUNGEN AUS DER ÖSTLICHEN OBERLAUSITZ IN DEN JAHREN 1949-1959. [NOTEWORTHY OBSERVATIONS FOR THE GÖRLITZ-WEISSWASSER AREA (WEST BANK OF NEISSE RIVER) DURING 1949-1959.] Ornithol. Mitteil. 14(8): 141-149. Aug. 1962. In German. WR 126: 38

[Bautzner Strasse 3, Niesky O/L, Germany.]

Andersen-Harild, Pelle, C. A. Blume, Erik Kramshoj, and O. Schelde. NOGLE INVASIONER AF NODDEKRIGE (NUCIFRAGA CARYOCATACTES). [SOME INVASIONS BY NUTCRACKERS (NUCIFRAGA CARYOCATACTES) (DENMARK).] Dansk Ornithol. Forenings Tidsskr. 60(1): 1-13, illus. 1966. [From Biol. Abstr. 47(20), 1966. In Danish with German summ.] WR 126: 39
[Norrebrogade 156, Copenhagen, Denmark.]

Bakus, Gerald J. CHANGES IN THE AVIFAUNA OF FANNING ISLAND, CENTRAL PACIFIC, BETWEEN 1924 AND 1963. Condor 69(2): 207-209. Mar.-Apr. 1967. WR 126: 39
[Univ. Southern Calif., Los Angeles.] Observations on 17 spp.--Courtesy/ Paul A. Stewart.

Craggs, J. D. POPULATION STUDIES OF AN ISOLATED COLONY OF HOUSE SPARROWS (PASSER DOMESTICUS). Bird Study 14(1): 53-60, 2 figs. Mar. 1967. WR 126: 39

Deppe, Hans-Jochen. ZUR SIEDLUNGSDICHTE EINIGER SPECHTARTEN IM GEBIET DER MÜRITZ. [ON THE DENSITY OF SOME WOODPECKERS IN THE MÜRITZ REGION.] Ornithol. Mitteil. 15(4): 81-83, illus. Apr. 1963. In German. WR 126: 39
[Göttingen, Germany.]

Ernholdt, T. [THE OCCURRENCE OF THE GOLDEN ORIOLE (ORIOLUS ORIOLUS) IN SWEDEN 1944-1964.] Vår Fågelvärld 25: 227-252. 1966. [From Ibis 109(1), 1967. In Swedish with English summ.] WR 126: 39

Höppner, Gerhard. DER EINFLUSS DES NACHWINTERS 1953 AUF EINEN BRUTBESTAND DES PIROLS (ORIOLUS ORIOLUS). [THE INFLUENCE OF THE UNSEASONALLY LATE WINTER OF 1953 ON A BREEDING POPULATION OF GOLDEN ORIOLES (ORIOLUS ORIOLUS).] Ornithol. Mitteil. 16(10): 207-208. Oct. 1964. In German. WR 126: 39
[Pappelstrasse 16, Bremen, Germany.] Seven pairs disappeared during a period of snowfall and unseasonally low temperatures during 9-10 May.

Martens, Jochen. ZUM VORKOMMEN DER BEUTELMEISE (REMIZ PENDULINUS) AM MITTLEREN NECKAR. [ON OCCURRENCES OF REMIZ PENDULINUS ON THE MIDDLE NECKAR (BADEN-WURTTEMBERG).] Ornithol. Mitteil. 14(11): 201-205, 1 fig. Nov. 1962. In German. WR 126: 39
[Eulerstrasse 6B, Stuttgart-Rohr, Germany.] During the period 1956-1961.

Mayr, Ernst. AVIFAUNA: TURNOVER ON ISLANDS. Science 150(3703): 1587-1588. 17 Dec. 1965. WR 126: 39
[Museum Comparative Zool., Harvard Univ., Cambridge, Mass.] Abstract: The percentage of endemic species of birds on islands increases with island area at a double logarithmic rate. This relation is apparently due to extinction, which is more rapid the smaller the island. The turnover resulting from extinction and replacement appears to be far more rapid than hitherto suspected.

Olsson, Viking. FÖRÄNDRINGAR I OSTKUSTENS FAGELFAUNA OCH NAGOT OM ORSAKERNA DARTILL. [SOME CHANGES IN THE BIRD-FAUNA OF THE SWEDISH EAST COAST.] Vår Fågelvärld 23(4): 352-362, illus. 1964. [From Biol. Abstr. 47(20), 1966. In Swedish with English summ.] WR 126: 39

Parslow, J. L. F. CHANGES IN STATUS AMONG BREEDING BIRDS IN BRITAIN AND IRELAND. (PART II). British Birds 60(3): 97-123, 2 figs. Mar. 1967. WR 126: 39
Treats birds from grouse to shorebirds. [See WR 125: 40 for Part I.]

Peters, Dieter Stefan. GEDANKEN ZUM REVIERPROBLEM. [THOUGHTS ON THE TERRITORY PROBLEM.] Ornithol. Mitteil. 14(9): 161-171, illus. Sept. 1962. In German. WR 126: 39
[Dunantring 121, Frankfurt/Main-Sossenheim, Germany.] With a bibliography of 53 titles.

Tubbs, C. R. NUMBERS OF DARTFORD WARBLERS IN ENGLAND DURING 1962-66. British Birds 60(2): 87-89. Feb. 1967. WR 126: 40

BIRDS--ECONOMICS, CONTROL, MORTALITY

Root, R. B. THE AVIAN RESPONSE TO A POPULATION OUTBREAK OF THE TENT CATERPILLAR, MALACOSOMA CORSTRICTUM (STRETCH). Pan-Pacific Entomologist 42: 48-53. 1966. [From Ibis 109(1), 1967.] WR 126: 40

The breeding failure of several species of insectivorous birds in Californian oak forest is related to the reduction of the canopy arthropod fauna consequent upon severe local defoliation by the tent caterpillar. Although superabundant, caterpillar and imagine were rarely taken as food.

Tinbergen, N., M. Impekoven, and D. Franck. AN EXPERIMENT ON SPACING-OUT AS A DEFENCE AGAINST PREDATION. Behaviour 28(3-4): 307-321, 2 figs. 1967. With German summ. WR 126: 40

[Univ. Oxford, England.] Summary: The paper is concerned with the tracing of a selection pressure which would account for the fact (believed to be sufficiently well established) that individuals of many well-camouflaged species live further away from other individuals of their species than the distance from which even bird predators are able to detect them. Artificially camouflaged hens' eggs were laid out in plots of different densities. Wild carrion crows were attracted to each plot by a standard "sample egg" which, while painted in the same way as the other eggs on the uppermost half, was laid out in a more conspicuous way. In spite of the fact that the crows spent more time searching in the "scattered" than in the "crowded" plots, the crowded eggs suffered a much higher mortality. It is concluded that even for individuals of a well-camouflaged species it must be of advantage to live further away from others than the Direct Detection Distance of their predators. However, the experiments do not show that a crowded population as a whole suffers higher predation than a scattered population; experiments to test this and other aspects of the problem are in progress. It is argued that the absolute values of the density dependent mortality scores of the experiments cannot be applied to natural populations, because their density will in most cases be determined by other ultimate factors as well.

GAME BIRDS--GENERAL

Brush, Alan H. HEMOGLOBINS OF A RING-NECKED PHEASANT X JUNGLE FOWL HYBRID. Condor 69(2): 206. Mar.-Apr. 1967. WR 126: 40

[Univ. Conn., Storrs.] "There are no detectable differences in the mobilities of the hemoglobin fractions in the mutant strains of the domestic fowl, no differences between the domestic fowl and the jungle fowl and no difference among the jungle fowl, ring-necked pheasant, and their hybrid."--Courtesy/ Paul A. Stewart.

Chel'tsov-Bebutov, A. M. [GAME SEASONS FOR WILD FOWL IN THE USSR.] Ornitologiya (Moscow) 6: 10-20. 1963. [From Biol. Abstr. 47(22), 1966, from Referat. Zhur., Biol., 1965, no. 11243. Transl. of Russian abstr.] WR 126: 40

QUAIL

Robel, R. J., and S. A. Linderman. WEIGHT DYNAMICS OF UNCONFINED BOBWHITE QUAIL IN KANSAS. Trans. Kans. Acad. Sci. 69(2): 132-138, 1 fig. 1966. WR 126: 40

[Kans. State Univ., Manhattan.] Weights of 263 bobwhite quail collected during the Sept.-Apr. period of 1964-1966 are presented. Average weights increased between Sept. and Jan. and then decreased until Apr. Adult birds were heavier than juveniles during fall and spring. The heaviest adult quail

(230.6 grams) was a female collected in Apr. and the heaviest juvenile (235.9 grams) was a female collected in Jan. Photoperiod and food availability in combination are discussed as possible causes for changes in body weights.--R. J. Robel.

Selinger, Howard E., and Gordon Bermant. HORMONAL CONTROL OF AGGRESSIVE BEHAVIOR IN JAPANESE QUAIL (COTURNIX COTURNIX JAPONICA). Behaviour 28(3-4): 255-268, 4 figs. 1967. With German summ. WR 126: 41
[Univ. Calif., Davis.]

Stokes, Allen W. BEHAVIOR OF THE BOBWHITE, COLINUS VIRGINIANUS. Auk 84 (1): 1-33, 6 figs. + 1 pl. Jan. 1967. WR 126: 41
[Utah State Univ., Logan.] Describes maintenance, alarm, agonistic, sexual, and parental behavior of adult quail; postulates causation, function, and derivation of behavior; correlates behavior with sex and social rank of the birds.--Courtesy/ Paul A. Stewart.

Williams, Henry Warrington. THE VOICE OF THE CALIFORNIA QUAIL (LOPHORTYX CALIFORNICUS) WITH PARTICULAR REFERENCE TO ONTOGENY. Ph.D. thesis, Utah State Univ. 98 p. 1966. [From Dissertation Abstr. 27(8B), 1967.] WR 126: 41
Fourteen adult call types and five chick calls were described and analyzed by means of the audiospectrograph.

Woodard, A. E., and H. Abplanalp. THE EFFECTS OF MATING RATIO AND AGE ON FERTILITY AND HATCHABILITY IN JAPANESE QUAIL. Poultry Sci. 46(2): 383-388. Mar. 1967. WR 126: 41
[Univ. Calif., Davis.]

PHEASANTS

Norton, C. C. EIMERIA DUODENALIS SP. NOV. FROM ENGLISH COVERT PHEASANTS (PHASIANUS SP.). Parasitology 57(1): 31-46, 5 figs. Feb. 1967. WR 126: 41
[Central Vet. Lab., Weybridge, Surrey, England.]

Pulliainen, Erkki. STUDIES ON THE ACTIVITY PATTERNS OF PHEASANT CHICKS (PHASIANUS COLCHICUS L.) IN EXPERIMENTAL CONDITIONS. Ann. Acad. Sci. Fennicae Ser. A IV Biol. 97: 1-16, illus. 1965. [From Biol. Abstr. 47(19), 1966.] WR 126: 41
[Univ. Helsinki, Helsinki, Finland.]

Trigg, P. I. EIMERIA PHASIANI TYZZER, 1929--A COCCIDIUM FROM THE PHEASANT (PHASIANUS COLCHICUS). I. THE LIFE CYCLE. Parasitology 57(1): 135-145, 4 figs. Feb. 1967. WR 126: 41
[Natl. Inst. Medical Res., Mill Hill, London, England.]

Trigg, P. I. EIMERIA PHASIANI TYZZER, 1929--A COCCIDIUM FROM THE PHEASANT (PHASIANUS COLCHICUS). II. PATHOGENICITY AND DRUG ACTION. Parasitology 57(1): 147-155, 2 figs. Feb. 1967. WR 126: 41
[Natl. Inst. Medical Res., Mill Hill, London, England.]

Weigand, John P. COCK PHEASANTS ROUT MARSH HAWK. Auk 84(1): 114. Jan. 1967. WR 126: 41
[Route 1, Southwest, Great Falls, Mont.] Three cock ring-necked pheasants (Phasianus colchicus) approached a marsh hawk (Circus cyaneus) which was eating a female pheasant. The hawk retreated but dragged away its prey.--Courtesy/ Paul A. Stewart.

GROUSE, PARTRIDGE, ETC.

Dick, T. A., and M. D. B. Burt. OBSERVATIONS ON THE LIFE CYCLE OF DAVAINEA TETRAOENSIS FUHRMANN, 1919 (PLATYHELMINTHES-CESTODA) A PARASITE OF RUFFED GROUSE (BONASA UMBELLUS). Canadian J. Zool. 45(2): 233. Mar. 1967. WR 126: 42
[Univ. New Brunswick, Fredericton, Canada.]

Gullion, Gordon W. SELECTION AND USE OF DRUMMING SITES BY MALE RUFFED GROUSE. Auk 84(1): 87-112, 4 figs. Jan. 1967. WR 126: 42
[Univ. Minn., Cloquet.] Depending on yearly continuity of use of drumming sites, the sites are classified as perennial or transient. Annually a log may be used as a primary, alternate, or perhaps incidentally as a secondary drumming log. The status of a male ruffed grouse (Bonasa umbellus) established on a log with relation to his predecessor may be that of a new drummer, a replacement, displacement, or repeat. The social status of the grouse in an activity center may be that of dominant drummer, subdued alternate drummer, a satellite drummer sharing a center on nearly equal terms with the dominant male, or a non-drummer not regularly associated with a definite site. The spring season is the period of most drumming, but fall attention to the drumming sites equals or exceeds that in the spring. Birds occupying logs are mostly 22 or more months old. From summ.--Courtesy/ Paul A. Stewart.

Harper, G. R., R. D. Klataske, R. J. Robel, and M. F. Hansen. HELMINTHS OF GREATER PRAIRIE CHICKENS IN KANSAS. J. Wildl. Mgmt. 31(2): 265-269. Apr. 1967. WR 126: 42
[Kans. State Univ., Manhattan.] Abstract: Viscera of 106 greater prairie chickens (Tympanuchus cupido pinnatus) collected in 1964 and 1965 were examined for helminths. Three species of nematodes were found: Seurocyrnea colini, Heterakis gallinarum, and Dispharynx nasuta. Dispharynx nasuta had not previously been recorded from greater prairie chickens. None of the nematodes in the observed infections was considered a serious mortality threat to the greater prairie chicken. Two species of cestodes, found in 1964, were too poorly fixed to be identified. One cestode specimen was similar to Choanotaenia or Raillietina; the other resembled Metroliasthes. Incidence of parasitism was 82.1 percent for all specimens examined with the highest infection being 27 nematodes in one bird.

Irving, Laurence, George C. West, and Leonard J. Peyton. WINTER FEEDING PROGRAM OF ALASKA WILLOW PTARMIGAN SHOWN BY CROP CONTENTS. Condor 69(1): 69-77, 10 figs. Jan.-Feb. 1967. WR 126: 42
[Univ. Alaska, College.] Crops and crop contents of 1192 willow ptarmigan (Lagopus lagopus) progressively increased in weight from Oct. to Jan. and declined in weight from Jan. to Apr. During Oct. and Nov., there was southward migration; during Jan. to May, there was northward migration. Increase and decrease of weights of crop contents was not in phase with winter stresses or the cycle of migratory activity.--Courtesy/ Paul A. Stewart.

Murtha, Peter A. AIR PHOTO SURVEILLANCE OF HUNGARIAN PARTRIDGE HABITAT CHANGE. J. Wildl. Mgmt. 31(2): 366-369, 1 fig. Apr. 1967. WR 126: 42
[N.Y. Coop. Wildl. Res. Unit, Ithaca.] Abstract: Change in land-use pattern on a selected area in Jefferson County, New York, was determined from a sequence of aerial photographs taken in 1941, 1948, 1959, and 1963. From 1956 to 1963 the New York State Conservation Department made an annual winter census of Hungarian partridge (Perdix perdix) in the same area. Information from the 1963 census was used to divide the region into sections of high, low, and zero partridge density. Differences between the three areas in respect to both total number of birds and total number of coveys present are significant (p is less than 0.05). Differences in the percent active agriculture between the three areas are highly significant (p is less than 0.01). Linear correlation analysis suggests that the mean number of birds per covey in relation to percent active agriculture is the best index to the suitability of the habitat for Hungarian partridge.

Pomarnacki, Leopold. CIETRZEW W WOJEWODZTWIE KIELECKIM. [THE HEATH GROUSE (LYRURUS TETRIX) IN KIELCE VOIVODESHIP (POLAND).] Przegl. Zool. 8(3): 271-274. 1964. [From Biol. Abstr. 47(20), 1966. In Polish with English summ.] WR 126: 43
[Polish Zool. Soc., Breslau, Poland.]

Pulliainen, Erkki. STUDIES ON THE WEIGHT, FOOD AND FEEDING BEHAVIOR OF THE PARTRIDGE (PERDIX PERDIX L.) IN FINLAND. Ann. Acad. Sci. Fenn. Ser. A IV Biol. 93: 1-76, illus. 1965. [From Biol. Abstr. 47(19), 1966.] WR 126: 43
[Univ. Helsinki, Helsinki, Finland.]

Robel, Robert J. BOOMING TERRITORY SIZE AND MATING SUCCESS OF THE GREATER PRAIRIE CHICKEN (TYMPANUCHUS CUPIDO PINNATUS). Animal Behaviour 14(2-3): 328-331, 1 fig. 1966. WR 126: 43
[Kans. State Univ., Manhattan.] Observations were made of 8 tagged male greater prairie chickens during the spring of 1964 and 1965. Each of these birds had distinct territories on the booming ground. Two males, both of which controlled large booming ground territories, accounted for 72.5 percent of the 69 matings observed. The size of the territory controlled appeared to be directly related to mating success of the males.--Auth. abstr.

Robel, Robert J. SIGNIFICANCE OF BOOMING GROUNDS OF GREATER PRAIRIE CHICKENS. Proc. Am. Philosophical Soc. 111(2): 109-114, 3 figs. Apr. 1967. WR 126: 43
[Kans. State Univ., Manhattan.] A 3-year study of greater prairie chickens (Tympanuchus cupido pinnatus) in north eastern Kansas disclosed that a very small number of males (11 percent of the males on the study area) conducted 92 of the 97 copulations observed on one booming ground. Only adult birds were observed to mate with females visiting the grounds. Inter-booming ground movements by immature males were observed. The selection and concentration of a suitable breeding stock plus the attraction of females by the activities of the booming males were listed as two advantages of booming grounds of prairie chickens.--Auth. abstr.

Sierpinski, Z. [BLACKCOCK (LYRURUS TETRIX L.)--A PEST OF YOUNG PLANTATIONS OF PINE.] Sylwan 109(3): 49-53. 1965. [From Bibliog. Agr. 31(2), 1967. In Polish with English summ.] WR 126: 43

Silvy, Nova J., and Robert J. Robel. RECORDINGS USED TO HELP TRAP BOOMING GREATER PRAIRIE CHICKENS. J. Wildl. Mgmt. 31(2): 370-373. Apr. 1967. WR 126: 43
[Kans. State Univ., Manhattan.]

Yurlov, K. [NESTING OF THE WHITE PARTRIDGE.] Okhota & Okhotnich'e Khoz. 1958(12): 58. 1958. [From Biol. Abstr. 47(24), 1966, from Referat. Zhur., Biol., 1960, no. 11253. Transl. of Russian abstr.] WR 126: 43

TURKEY

Williams, Lovett E. WILD TURKEYS (MELEAGRIS GALLOPAVO) WITH SUPERNUMERARY LEG SPURS. Auk 84(1): 113-114, 1 fig. Jan. 1967. WR 126: 43
[Fla. Game & Fresh Water Fish Comm., Gainesville.] Two Florida specimens of wild turkeys having two spurs on each leg are reported.--Courtesy/ Paul A. Stewart.

DOVES & PIGEONS

Hansen, E. W. SQUAB INDUCED CROP GROWTH IN RING DOVE FOSTER PARENTS. J. Comp. Physiol. Psychol. 62: 120-122. 1966. [From Ibis 109(1), 1967.] WR 126: 44

Pairs of ring doves Columba palumbus were given two to four day old squabs at five different points in the breeding cycle. A significant acceleration in crop growth found if given after egglaying, but not before. Results support the view that feeding behavior is not due to peripheral tension from the crop.

Hewson, Raymond. THE ROCK DOVE IN SCOTLAND IN 1965. Scottish Birds 4(5): 359-371. Spring 1967. WR 126: 44

"Columba livia."

Kumerloeve, H. VOM RUFEN DER TÜRKENTAUBE (STREPTOPELIA DECAOCTO). [ON THE CALLS OF THE COLLARED DOVE (SPREPTOPELIA DECAOCTO).] Ornithol. Mitteil. 14(6): 105-106. June 1962. In German. WR 126: 44

[Arndtstrasse 45, Osnabrück, Germany.]

Lott, D. F., and P. N. Brody. SUPPORT OF OVULATION IN THE RING DOVE BY AUDITORY AND VISUAL STIMULI. J. Comp. Physiol. Psychol. 62: 311-313. 1966. [From Ibis 109(1), 1967.] WR 126: 44

Matousek, Branislav, and Franz Matousek. ZUM VORKOMMEN UND ZUR BIOLOGIE DER TÜRKENTAUBE (STREPTOPELIA DECAOCTO) IN DER SLOWAKEI. [ON THE OCCURRENCE AND BIOLOGY OF THE TURTLE DOVE (STREPTOPELIA DECAOCTO) IN SLOVAKIA.] Ornithol. Mitteil. 16(9): 190-194, illus. Sept. 1964. In German. WR 126: 44

Michener, Martin C., and Charles Walcott. NAVIGATION OF SINGLE HOMING PIGEONS: AIRPLANE OBSERVATIONS BY RADIO TRACKING. Science 154(3747): 410-413, 3 figs. 21 Oct. 1966. WR 126: 44

[Tufts Univ., Medford, Mass.] Abstract: Navigation of homing pigeons was investigated by tracking their homeward flights from a light airplane. Released on successive days from a single training point 35 miles (56 kilometers) from home, individual pigeons, each carrying a transmitter, were repeatedly tracked back to their loft. No two tracks covered the same ground for even short distances, yet all tracks were within 10 miles of a straight line. Results from further releases north and south of the training point suggest that pigeons often use three methods in sequence to find home: compass orientation, bi-coordinate navigation, and orientation by familiar landmarks.

Schmid, William D. THE MOURNING DOVE IN NORTH DAKOTA--A WASTED GAME BIRD. N. Dak. Outdoors 29(7): 4-7, 8 figs. Jan. 1967. WR 126: 44

[Univ. Minn., Minneapolis.] Breeding habits, populations, feeding habits and migration of Zenaidura macroura in N. Dak.

Vowles, D. M., and D. Harwood. THE EFFECT OF EXOGENOUS HORMONES ON AGGRESSIVE AND DEFENSIVE BEHAVIOUR IN THE RING DOVE (STREPTOPELIA RISORIA). J. Endocrinol. 36: 35-51. 1966. [From Ibis 109(1), 1967.] WR 126: 44

WATERFOWL

Bengston, S.-A. [OBSERVATIONS ON THE SEXUAL BEHAVIOUR OF THE COMMON SCOTER (MELANITTA NIGRA) ON THE BREEDING GROUNDS, WITH SPECIAL REFERENCE TO COURTING PARTIES.] Vår Fågelvärld 25: 202-226. 1966. [From Ibis 109(1), 1967. In Swedish with English summ.] WR 126: 44

Beser, Hermann Josef. TRAUERENTEN (MELANITTA NIGRA) AUF DEM RHEIN. [COMMON SCOTERS (MELANITTA NIGRA) ON THE RHINE.] Ornithol. Mitteil. 14(6): 107. June 1962. In German. WR 126: 44

Brennecke, Hans-Ewald. ZUR AUSBREITUNG DES HÖCKERSCHWANS UND ZUR FRAGE SEINER FISCHEREISCHÄDLICHKEIT. [ON THE INCREASE OF CYGNUS OLOR AND THE QUESTION OF THEIR DAMAGE TO FISHERIES.] Ornithol. Mitteil. 14(9): 171-172, illus. Sept. 1962. In German. WR 126: 45

Cowardin, Lewis M., Gerald E. Cummings, and Porter B. Reed, Jr. STUMP AND TREE NESTING BY MALLARDS AND BLACK DUCKS. J. Wildl. Mgmt. 31(2): 229-235, 2 figs. Apr. 1967. WR 126: 45

[Northern Prairie Wildl. Res. Center, Jamestown, N. Dak.] Abstract: Studies conducted 1961-65 at the Montezuma National Wildlife Refuge in New York demonstrated that mallards (Anas platyrhynchos) and black ducks (Anas rubripes) make extensive use of stumps and dead snags for nest sites. Nest densities in timbered habitats compared favorably with those in untimbered habitats. Nest success was generally higher in timbered than in untimbered areas, except for a newly flooded impoundment where nest success was poor. A simple artificial nest structure was used to increase the number of available nest sites in some of the timbered habitats. Development of stump-nesting populations of ducks may furnish a means of increasing waterfowl production in forested areas.

Crider, E. Dale, and Jimmie C. McDaniel. ALPHA-CHLORALOSE USED TO CAPTURE CANADA GEESE. J. Wildl. Mgmt. 31(2): 258-264, 2 figs. Apr. 1967. WR 126: 45

[Fla. Game & Fresh Water Fish Comm., Gainesville.] Abstract: During field trials in the winters of 1965 and 1966, 573 Canada geese (Branta canadensis) and 5 blue geese (Chen caerulescens) were caught with alpha-chloralose, an oral hypnotic administered on bait. The mortality rate was 2.6 percent of 475 geese captured with 0.25 g of the drug mixed with each cup of bait. Heavier dosages produced higher mortality rates. An effective capture technique based on alpha-chloralose is described.

Dement'ev, G. [SOME PROBLEMS OF THE ECOLOGY AND PROTECTION OF DIVING BIRDS IN THE USSR.] Okhota & Okhotnich'e Khoz. 10: 20-23. 1959. [From Biol. Abstr. 47(18), 1966, from Referat. Zhur., Biol., 1960, no. 81661. Transl. of Russian abstr.] WR 126: 45

Dott, Harold E. M. NUMBERS OF GREAT SKUAS AND OTHER SEABIRDS OF HERMANESS, UNST. Scottish Birds 4(5): 340-350, 1 fig. Spring 1967. WR 126: 45

Great skuas at Hermaness have increased from a few pairs in the 19th century to 300-350 pairs in 1958 with no increase being indicated for 1965. From the 1930's to 1958 the Arctic skua population had halved. No changes are indicated for 1965.

Eberhardt, Diether. DAS AUFTRETEN DER TRAUERENTE (MELANITTA NIGRA) AM NIEDERRHEIN. [THE APPEARANCE OF THE COMMON SCOTER (MELANITTA NIGRA) ON THE LOWER RHINE.] Ornithol. Mitteil. 14(6): 108-109. June 1962. In German. WR 126: 45

[Gartenstrasse 19A, Wesel, Germany.]

Fog, Mette. GASETRAEKKET GENNEM DANMARK BELYST UDFRA GENMELDINGER AF UDENLANDSK MAERKEDE GAES. [THE MIGRATION OF GEESE THROUGH DENMARK.] Dansk Ornithol. Forenings Tidsskr. 58(4): 147-165, illus. 1965. [From Biol. Abstr. 47(19), 1966. In Danish with English summ.] WR 126: 45

Gyllin, Roger. NAGOT OM AVLEDNIGSBETEENDE SAMT LOCKOCH VARNINGSLATEN HOS SMADOPPINGEN. [ON INJURY-FEIGNING AND CALL-AND-ALARM-NOTES OF LITTLE GREBE (PODICEPS RUFICOLLIS).] Fauna & Flora 4: 148-158. 1965. [From Biol. Abstr. 47(18), 1966. In Swedish with English summ.] WR 126: 45

Harrison, James M., and Jeffery G. Harrison. A GADWALL (ANAS STREPERA) WITH A WHITE NECK RING AND A REVIEW OF PLUMAGE VARIANTS IN WILDFOWL. Bull. British Ornithol. Club 83: 101-108. 1963. [From Ibis 109(1), 1967.] WR 126: 45

Variants in the Anatidae fall into four groups: (i) variants within a species--in mallard (A. platyrhynchos), pintail (A. acuta) and eider duck

(Somateria spp.), the first being a good example of a morphic cline; (ii) variants resembling a closely-related species--11 examples are given, providing further evidence of relationships involved; (iii) variants presenting characters which are more widespread within the Anatidae, e.g. white neck spots and rings; (iv) variants towards an undifferential plumage.

Hrynkiewicz-Sudnik, Jerzy, and Michał Hrynkiewicz-Sudnik. SPOSOBY UDOMOWIENIA KACZKI KRZYŻÓWKI, ANAS PLATYRHYNCHOS L., I MOŻLIWOŚCI UZYSKANIA MIESZAŃCÓW Z KACZKA DOMOWA. [ON THE DOMESTICATION OF THE MALLARD, ANAS PLATYRHYNCHOS, AND ITS HYBRIDS WITH THE DOMESTIC DUCK.] Przegl. Zool. 8(2): 165-170, illus. 1964. [From Biol. Abstr. 47(20), 1966. In Polish with English summ.] WR 126: 46

[Wrocław Univ., Breslau, Poland.]

Irby, Harold D., Louis N. Locke, and George E. Bagley. RELATIVE TOXICITY OF LEAD AND SELECTED SUBSTITUTE SHOT TYPES TO GAME FARM MALLARDS. J. Wildl. Mgmt. 31(2): 253-257. Apr. 1967. WR 126: 46

[Patuxent Wildl. Res. Center, Rockport, Texas.] Abstract: The acute toxicity of lead, three types of plastic-coated lead, two lead-magnesium alloys, iron, copper, zinc-coated iron, and molybdenum-coated iron shot were tested in year-old male game farm mallards. Mallard (Anas platyrhynchos) were fed eight number 6 shot of each type and observed for a period of 60 days. Ducks used totaled 230 and most shot types were tested in three replicates of 8 ducks each. Mortality and losses of body weight were the criteria used for judging toxicity. Three types of plastic-coated lead shot were as toxic (93 percent) as the commercial lead shot (96 percent). The average mortality in mallards fed lead-magnesium alloy shot was less (58 percent) than that occurring in birds fed commercial lead shot. Mortality among mallards fed iron, copper, zinc-coated iron or molybdenum-coated iron shot was significantly less than in birds fed lead shot, and was not significantly greater than the controls.

Jones, R. E., and A. S. Leopold. NESTING INTERFERENCE IN A DENSE POPULATION OF WOOD DUCKS. J. Wildl. Mgmt. 31(2): 221-228, 7 figs. Apr. 1967. WR 126: 46

[Museum Vertebrate Zool., Davis, Calif.] Abstract: A breeding colony of wood ducks (Aix sponsa) was built up over a 9-year period by erecting nesting boxes along a small slough in the Sacramento Valley. The number of breeding pairs increased faster than boxes could be added, which led to nesting interference, compound nesting, nest desertion, and generally inefficient reproduction. Effective production of young per pair was inversely proportional to density, and in the latter years the population became essentially self-limiting. Lack of territorial defense of the nest site by an established pair was primarily responsible for the inefficiency of nesting in a high density population.

Larsen, Thor, and Magnar Norderhaugh. RESULTATER AV KVITKINNGAS-MERKINGER PA SVALBARD. [RESULTS FROM BANDING THE BARNACLE GOOSE IN SVALBARD.] Sterna 6(3): 153-167, illus. 1964. [From Biol. Abstr. 47(19), 1966. In Norwegian with English summ.] WR 126: 46

Lippens, L. NOTE PRÉLIMINAIRE CONCERNANT L'ÉTUDE DES RÉSULTATS DU BAGUAGE DES CANARDS COLVERTS A MEETKERKE. [PRELIMINARY NOTE CONCERNING THE STUDY OF RESULTS OF BANDING MALLARD DUCKS IN MEETKERKE.] Gerfaut Rev. Sci. Belg. Ornithol. 54(3): 313-315. 1964. [From Biol. Abstr. 47(20), 1966. In French.] WR 126: 46

Locke, Louis N., and George E. Bagley. CASE REPORT: COCCIDIOSIS AND LEAD POISONING IN CANADA GEESE. Chesapeake Sci. 8(1): 68-69. Mar. 1967. WR 126: 46

[Patuxent Wildl. Res. Center, Laurel, Md.] Abstract: Four dead Canada geese (Branta canadensis L.) collected at the Prime Hook National Wildlife Refuge, Delaware were found to have both marked duodenal lesions of coccidiosis and high levels of lead in the liver. Although only one goose had lead shot in the gizzard, all four had levels of lead in the liver suggestive of lead poisoning.

Martz, Gerald F. EFFECTS OF NESTING COVER REMOVAL ON BREEDING PUDDLE DUCKS. J. Wildl. Mgmt. 31(2): 236-247, 3 figs. Apr. 1967. WR 126: 47
[Rose Lake Wildl. Res. Center, East Lansing, Mich.] Abstract: The effects of late-summer wild-hay mowing on puddle-duck breeding populations, nest distribution, nest success, and breeding phenology in the year following mowing were studied at Lower Souris National Wildlife Refuge, North Dakota, during 1961-62. The effects of spring burning in 1960 are also cited. New growth on mowed meadows was only 2-6 inches tall when nesting began in residual cover (12-14 inches) on unmowed areas. Blue-winged teal (Anas discors) and gadwalls (A. strepera) made up 71 percent of the breeding puddle-duck population. During 1960-62, there were 13 percent fewer pairs of these and five other puddle-duck species along mowed and burned areas than where cover was untouched, but the difference was not statistically significant. Nest densities were greater in areas where residual cover was undisturbed. Few gadwalls nested in mowed meadows, but they nested readily in unmowed shorelines and roadsides along mowed areas. Blue-winged teal nests were common in mowed meadows. Nesting success differed significantly between cover types but not between mowed and unmowed meadows. Late nest-initiation dates and reduced clutch sizes suggested that late-nesting hens used mowed areas. Mowing may have redistributed breeding ducks without reducing the total population. Regional water conditions may have been more important than mowing in determining the size of the local population.

Moreau, R. E. WATER-BIRDS OVER THE SAHARA. Ibis 109(2): 232-259, 1 fig. Apr. 1967. WR 126: 47
[Edward Grey Inst., Oxford, England.] An account of 57 spp.

Nilsson, Leif. STORSKRAKENS (MERGUS MERGANSER) BETEENDE UNDER VINTERHALVÅRET. [THE BEHAVIOR IN WINTER OF THE GOOSANDER.] Vår Fågelvärld 25: 148-160. 1966. [From Bird-Banding 38(1), 1967. In Swedish with English summ.] WR 126: 47

Pack, A. Boyd. SPRING MIGRATION OF WATERFOWL IN NEW YORK AND THE WEATHER / CANADA GEESE PICK A STORMY DAY IN 1965. Kingbird 17(1): 7-13, 2 figs. Jan. 1967. WR 126: 47
[Cornell Univ., Ithaca, N.Y.]

Pehrsson, Olof. STUDIER ÖVER RASTANDE OCH ÖVERVINTRANDE SJÖFAGEL I SÖDRA BOHUSLÄNS INRE SKÄRGRAD. [STUDIES OF RESTING AND WINTERING SEA-FOWL IN THE INNER ARCHIPELAGO OF SOUTHERN BOHUSLÄN.] Vår Fågelvärld 24(2): 107-132, illus. 1965. [From Biol. Abstr. 47(16), 1966. In Swedish with English summ.] WR 126: 47
[Zool. Inst., Fjärde Langgatan, Götteborg, Sweden.]

Preuss, Niels Otto. DANSKE RODHOVEDE AENDER (NETTA RUFINA (PALLAS)) TRAEKFORHOLD. [THE MIGRATION OF DANISH RED-CRESTED POCHARDS (NETTA RUFINA (PALLAS)).] Dansk Ornithol. Forenings Tidsskr. 59(1): 38-40. 1965. [From Biol. Abstr. 47(20), 1966. In Danish with English summ.] WR 126: 47
[Univ. Zool. Mus., Copenhagen, Denmark.]

Ryder, John Pemberton. THE BREEDING BIOLOGY OF ROSS' GOOSE IN THE PERRY RIVER REGION, NORTHWEST TERRITORIES. Canadian Wildl. Serv. Rept. Ser. no. 3. 56 p., 29 figs. 1967. 75¢. With French summ. WR 126: 47
Studies of a nesting colony of Ross' geese at Arlone Lake, in the Perry River region, N.W.T., during the summers of 1963 and 1964 are described. The explorations, climate, vegetation, fauna, and Eskimos of the area are reviewed. The history of the Ross' goose in the Perry River region is given. The following factors in the biology of Ross' goose are discussed: arrival dates, nest initiation, incubation, post-nuptial movements, mortality, predation, productivity, and competition. Sight reports of Ross' geese during the spring migration of 1964 are correlated with the northward movement of the 40°F isotherm. The possible advantage of this migration-control mechanism is discussed. It is suggested that a large influx of lesser snow and blue geese

during the reproductive phase would be detrimental to the Ross' geese. It was concluded that the population of Ross' geese nesting at Arlone Lake in 1963 and 1964 was not subjected to excessive limiting factors.--From abstr.

Sherwood, Glen Alan. CANADA GEESE OF THE SENEY NATIONAL WILDLIFE REFUGE. Ph.D. thesis, Utah State Univ. 321 p. 1966. [From Dissertation Abstr. 27 (8B), 1967.] WR 126: 48

Some significant findings, based on observations of marked geese were as follows: 1) Pairing, copulation, nest site selection, and defense of territory did not necessarily constitute positive evidence of a nesting attempt. 2) Family ties were extremely fragile the first three to four weeks of the goslings' lives, and a brood unit could be shattered at the slightest extraordinary event. 3) The intolerance of breeding pairs to other pairs during the nesting period placed an upper limit on nesting density. 4) A productive pair bond was established in a matter of hours in a pair of older geese that had lost their respective mates. 5) Pair bonds became a life-time pact so long as both members remained alive. 6) Ganders were capable of raising their brood alone when the goose died. 7) Brood mixing was common. The largest mixed brood contained 23 goslings, 21 of which were raised to flight by the adult pair. 8) About 75 percent of two-year-old females nested. They contributed about 25 percent of the total 1965 hatch. 9) Following the molt, many yearlings rejoined their parents and new brood and apparently all members migrated as a unit. Management recommendations were presented.

Shuntov, V. P. [SEASONAL ASPECTS OF THE DISTRIBUTION OF MARINE BIRDS IN THE OPEN WATERS OF THE SEA OF JAPAN.] Zool. Zhur. 44(3): 411-422, illus. 1965. [From Biol. Abstr. 47(16), 1966. In Russian with English summ.] WR 126: 48

[Pacific Ocean Res. Inst. Pisciculture & Oceanography, Vladivostok, USSR.]

Stewart, Paul A. DIVING SCHEDULES OF A COMMON LOON AND A GROUP OF OLDSQUAWS. Auk 84(1): 122-123. Jan. 1967. WR 126: 48

[USDA Entomol. Res. Div., Oxford, N.C.] Dive:pause ratios in seconds were 2.1:1 and 4.3:1 for a common loon (Gavia immer) and nine oldsquaws (Clangula hyemalis), respectively. The feeding birds spent about one minute beneath the water surface in the various diving periods.

Tholstrup, Poul. SAMMENHOLD MELLEM MAGERNE HOS GRAANDEN (ANAS PLATYRHYNCHOS). [MONOGAMY IN THE MALLARD (ANAS PLATYRHYNCHOS).] Dansk. Ornithol. Forenings Tidsskr. 59(3/4): 258-260, illus. 1965. [From Biol. Abstr. 47(24), 1966. In Danish with English summ.] WR 126: 48

[Frederiksborgvei 101, Roskilde, Denmark.]

Vaught, Richard W., Harold C. McDougle, and Harold H. Burgess. FOWL CHOLERA IN WATERFOWL AT SQUAW CREEK NATIONAL WILDLIFE REFUGE, MISSOURI. J. Wildl. Mgmt. 31(2): 248-253. Apr. 1967. WR 126: 48

[Mo. Dept. Conserv., Columbia.] Abstract: An epizootic of fowl cholera (Pasteurella multocida), in lesser snow geese (Chen h. hyperborea), blue geese (Chen caerulescens), mallards (Anas platyrhynchos), and other waterfowl occurred on Squaw Creek National Wildlife Refuge, Holt County, Missouri, during early January, 1964. More than 1,000 geese died in one night. Symptoms and previous case histories of fowl cholera, an infrequently reported disease among wild waterfowl, are reviewed. Pertinent field observations and methods of diagnosis are described. Observations indicated that mallard ducks were the probable early carriers of the disease. Snow, blue, and small Canada geese (Branta c. hutchinsii) were quite susceptible while large Canada geese (Branta c. interior and maxima) were not involved. Stresses caused by limited open water, overcrowding of birds, and inclement weather may have been conducive to the epizootic. Direct mortality from fowl cholera on wintering areas is not indicative of total mortality. Losses may continue along the migration routes. Secondary effects may result in loss of productivity.

Warnecke, Georg. BEOBACHTUNGEN AN EISSTURMVÖGELN (FULMARUS GLACIALIS) UND ANDEREN SEEVÖGELN AUF DEM NORDATLANTIK IM AUGUST UND SEPTEMBER 1956. [OBSERVATIONS ON THE FULMAR (FULMARUS GLACIALIS) AND OTHER SEA BIRDS ON THE NORTH ATLANTIC DURING AUGUST AND SEPTEMBER 1956.] Ornithol. Mitteil. 14(2): 30-32. Feb. 1962. In German. WR 126: 49
[Hohenzollernring 32, Hamburg-Altona, Germany.]

Weller, Milton W. NOTES ON PLUMAGES AND WEIGHTS OF THE BLACK-HEADED DUCK, HETERONETTA ATRICAPILLA. Condor 69(2): 133-145, 8 figs. Mar.-Apr. 1967. WR 126: 49
[Iowa State Univ., Ames.] Weights and measurements indicate that this species is unique among known anatids in that females are larger than males. The sequence of plumages is: natal, juvenal, non-nuptial (first basic), nuptial (alternate), non-nuptial (second basic). In adult life, there is sexual dimorphism in color but no seasonal dimorphism. The postjuvenal (first basic) and non-nuptial (later basics) plumages are long-lived, functioning as a winter plumage. The complete molt occurs in midsummer; the partial molt into nuptial (alternate) occurs in the spring.--From summ. Courtesy/ Paul A. Stewart.

Yocom, Charles F. PINTAIL BANDED IN NORTHWESTERN CALIFORNIA TAKEN AT BAYKAL LAKE, RUSSIA. Condor 69(2): 205-206. Mar.-Apr. 1967. WR 126: 49
[Humboldt State Coll., Arcata, Calif.] Courtesy/ Paul A. Stewart.

Zajac, Ryszard. TRZY GATUNKI ŁABEDZIA (CYGNUS BECHST.) NA JEZIORZE REZERWATU PTASI RAJ W GÓRKACH WSCHODNICH KOŁO GDAŃSKA. [THREE SWAN SPECIES (CYGNUS BECHST.) ON THE LAKE OF THE "PTASI-RAJ" (BIRDS' PARADISE) RESERVE IN GÓRKI WSCHODNIE NEAR GDANSK.] Przegl. Zool. 8(2): 157-161. 1964. [From Biol. Abstr. 47(20), 1966. In Polish with English summ.] WR 126: 49
[Inst. Zool., Gorki Wschodnie, Poland.] "Cygnus olor, C. cygnus and C. columbianus bewickii."

CRANES, RAILS, SHOREBIRDS

Bacells, E. LA GAVIOTA ARGENTA. [THE SILVERY SEA GULL.] Zoo Rev. Parque Zool. Barcelona (1): 15-16, illus. 1962. [From Biol. Abstr. 47(23), 1966. In Spanish.] WR 126: 49
Feeding, migration and incubation habits.

Beretzk, Peter, and Andreas Keve. ÜBER DEN ZUG EINIGER SELTENER LIMICOLENARTEN IN UNGARN. [ON THE MIGRATION OF SOME LESS COMMON SPECIES OF SHOREBIRDS IN HUNGARY.] Ornithol. Mitteil. 16(9): 183-184. Sept. 1964. In German. WR 126: 49
[Ungarisches Ornithol. Inst., Szeged, Hungary.]

Berger, Andrew J. THE INCUBATION PERIOD OF THE HAWAIIAN STILT. Auk 84(1): 130. Jan. 1967. WR 126: 49
[Univ. Hawaii, Honolulu.] Incubation period of 24 days was observed for Himantopus h. knudseni.--Courtesy/ Paul A. Stewart.

Bourne, W. R. P. LONG-DISTANCE VAGRANCY IN THE PETRELS. Ibis 109(2): 141-167. Apr. 1967. WR 126: 49
[70 Ashby Road East, Stanhope Bretby, Burton on Trent, England.] A review of the status of rarer petrels reported in Great Britain and a general survey of the long-distance vagrancy and the validity of other extralimital records of petrels elsewhere.

Brooks, William S. ORGANISMS CONSUMED BY VARIOUS MIGRATING SHOREBIRDS. Auk 84(1): 128-130. Jan. 1967. WR 126: 49
[Ripon Coll., Ripon, Wis.] Based on stomach contents of American golden plover, common snipe, greater yellowlegs, lesser yellowlegs, pectoral sandpiper, least sandpiper, dunlin, stilt sandpiper, semipalmated sandpiper, and Wilson's phalarope.--Courtesy/ Paul A. Stewart.

Feindt, Paul. SICHTBEOBACHTUNGEN DES KLEINEN SUMPFHUHNS (PORZANA PARVA) UND DES ZWERGSUMPFHUHNS (PORZANA PUSILLA) IN SÜDNIEDERSACHSEN. [VISUAL OBSERVATION OF THE SPOTTED CRAKE (PORZANA PARVA) AND OF BALLION'S CRAKE (PORZANA PUSILLA) IN SOUTHERN LOWER SAXONY.] Ornithol. Mitteil. 15(3): 51-60, illus. Mar. 1963. In German. WR 126: 50
[Neustädter Markt 50, Hildersheim, Germany.] For the period 1952-1961.

Ferdinand, Lorenz. DISPLAY OF THE GREAT SNIPE (GALLINAGO MEDIA LATHAM). Dansk Ornithol. Forenings Tidsskr. 60(1): 14-34, illus. 1966. [From Biol. Abstr. 47(18), 1966.] WR 126: 50
[Bioacoustic Lab., Arhus, Denmark.]

Ferdinand, L., and B. Gensbol. MAINTENANCE OF TERRITORY IN THE GREAT SNIPE (GALLINAGO MEDIA LATHAM) ON THE DISPLAY GROUND. Dansk Ornithol. Forenings Tidsskr. 60(1): 35-43. 1966. [From Biol. Abstr. 47(18), 1966.] WR 126: 50
[Bioacoustic Lab., Arhus, Denmark.]

ffrench, R. SOME UNUSUAL HABITS OF LITTLE BLUE HERONS. Caribbean J. Sci. 5: 89-90. 1965. [From Auk 84(1), 1967.] WR 126: 50
Florida caerulea in Trinidad caught a fish and picked up floating sticks while fluttering over deep water.

Gyllin, Roger. NAGRA SYNPUNKTER PA FORHALLANDET MELLAN RASTANDE OCH STRACKANDE VADARE I INLANDET. [SOME ASPECTS ON THE WADER MIGRATION OVER THE SWEDISH INLAND WITH SPECIAL REGARD TO THE RELATIONSHIP BETWEEN THE RESTING AND MIGRATING NUMBERS.] Vår Fågelvärld 24(3): 218-234, illus. 1965. [From Biol. Abstr. 47(24), 1966. In Swedish with English summ.] WR 126: 50

Harris, M. P. THE BIOLOGY OF OYSTERCATCHERS HAEMATOPUS OSTRALEGUS ON SKOKHOLM ISLAND, S. WALES. Ibis 109(2): 180-193. Apr. 1967. WR 126: 50
[Edward Grey Inst., Oxford, England.]

Hoy, Gunnar. THE EGGS AND NESTING GROUND OF THE PUNA PLOVER. Auk 84(1): 130-131, 1 fig. Jan. 1967. WR 126: 50
[Universidad Nacional de Córdoba, Argentina.] "Charadrius alticola."--Courtesy/ Paul A. Stewart.

Hudson, R. ADULT SURVIVAL ESTIMATES FOR TWO ANTARCTIC PETRELS. British Antarctic Surv. Bull. 8: 63-73. 1966. [From Ibis 109(1), 1967.] WR 126: 50

Johnston, David W., and Robert W. McFarlane. MIGRATION AND BIOENERGETICS OF FLIGHT IN THE PACIFIC GOLDEN PLOVER. Condor 69(2): 156-168, 2 figs. Mar.-Apr. 1967. WR 126: 50
[Univ. Fla., Gainesville.] On migration, behavior, molt, sex and age characteristics, body weight, lipid variations, rates of metabolism, and estimated flight ranges of Pluvialis dominica fulva.--Courtesy/ Paul A. Stewart.

Kral, Bohumil. HNIZDNI BIONOMIE VOLAVKY CERVENE ARDEA PURPUREA V RESERVACI VELKY A MALY TISY. [BREEDING BIOLOGY OF THE PURPLE HERON, ARDEA PURPUREA IN THE VELKY AND MALY TISY RESERVE.] Zool. Listy 15(1): 33-46, illus. 1966. [From Biol. Abstr. 47(24), 1966. In Czech with English summ.] WR 126: 50
[Czech. Acad. Sci., Brno, Czechoslovakia.]

Kumerloeve, H. UNGEWÖHNLICHE VERHALTENSWEISEN BEI REIHERN UND STÖRCHEN. [ABNORMAL BEHAVIOR AMONG HERONS AND STORKS.] Ornithol. Mitteil. 16(3): 59. Mar. 1964. In German. WR 126: 50
[Hubert-Reissner-Strasse 7, München-Gräfelfing, Germany.] With observations on feeding behavior and habitats of purple herons (Ardea purpurea), deep wading of white stork (Ciconia ciconia) and notes on little egrets Egretta garzetta.

Lazell, James D., Jr. THE TERNERY ON AVES ISLAND IN MARCH. Condor 69(1): 87-88. Jan.-Feb. 1967. WR 126: 51
[Univ. R.I., Kingston.] Contains estimates of the numbers of breeding pairs of noddy terns (Anoüs stolidus), sooty terns (Sterna fuscata), and bridled terns (S. anaethetus) on a Caribbean Island.--Courtesy/ Paul A. Stewart.

Lind, Hans. PARENTAL FEEDING IN THE OYSTERCATCHER (HAEMATOPUS O. OSTRALEGUS (L.)). Dansk Ornithol. Forenings Tidsskr. 59(1): 1-31, illus. 1965. [From Biol. Abst. 47(19), 1966. In English with Dutch summ.] WR 126: 51
[Univ. Copenhagen, Copenhagen, Denmark.]

Lowe-McConnell, Rosemary H. BIOLOGY OF THE IMMIGRANT CATTLE EGRET ARDEOLA IBIS IN GUYANA, SOUTH AMERICA. Ibis 109(2): 168-179, 1 fig. Apr. 1967. WR 126: 51
[Streatwick, Streat, via Hassocks, Sussex, England.] With an appendix on the nesting of the boatbill, Cochlearius cochlearius.

Norlin, Ake. ZUR NAHRUNGSWAHL VON LIMIKOLEN IN SCHWEDEN (BEOBACHTUNGS-STATION LEDSKÄR). [NUTRITIONAL SELECTION IN LIMICOLOUS BIRDS IN SWEDEN (LEDSKÄR OBSERVATION STATION).] Vogelwarte 23(1): 97-101. 1965. [From Biol. Abstr. 47(15), 1966. In German.] WR 126: 51
[Zool. Inst., Uppsala, Sweden.]

Olrog, C. C. BREEDING OF THE BAND-TAILED GULL (LARUS BELCHERI) ON THE ATLANTIC COAST OF ARGENTINA. Condor 69(1): 42-48, 2 figs. Jan.-Feb. 1967. WR 126: 51
[Universidad de Tucumán, Tucumán, Argentina.]

Paynter, Raymond A., Jr. A NEW ATTEMPT TO CONSTRUCT LIFE TABLES FOR KENT ISLAND HERRING GULLS. Bull. Museum Comp. Zool. 133(11): 489-528, illus. 1966. [From Biol. Abstr. 47(15), 1966.] WR 126: 51
[Harvard Univ., Cambridge, Mass.]

Pedersen, Ernst Torp. STOR REGNSPOVE (NUMENIUS A. ARQUATA (L.)) SOM YNGLEFUGL I DANMARK. [THE CURLEW (NUMENIUS A. ARQUATA (L.)) AS A BREEDING BIRD IN DENMARK.] Dansk Ornithol. Forenings Tidsskr. 59(3/4): 235-258, illus. 1965. [From Biol. Abstr. 47(24), 1966. In Danish with English summ.] WR 126: 51
[Højgaardsvej 4, Jelling, Denmark.]

Pettingill, Olin Sewall, Jr. A 36-YEAR-OLD WILD HERRING GULL. Auk 84(1): 123. Jan. 1967. WR 126: 51
[Cornell Univ., Ithaca, N.Y.] "This 36-year life-span of a wild bird may well exceed any other so far reported."--Courtesy/ Paul A. Stewart.

Strauch, Joseph G., Jr. SPRING MIGRATION OF DUNLIN IN INTERIOR WESTERN OREGON. Condor 69(2): 210-212, 1 fig. Mar.-Apr. 1967. WR 126: 51
[418 S. West St., Galesburg, Ill.] Data from four seasons on Erolia alpina.--Courtesy/ Paul A. Stewart.

Tantzen, Richard. DIE STÖRCHE IM OLDENBURGER LAND 1960. [THE STORKS IN OLDENBURGER GERMANY, 1960.] Ornithol. Mitteil. 14(1): 7-11. Jan. 1962. In German. WR 126: 51
[Hermann Allmersweg 5, Oldenburg, Germany.]

von Westernhagen, Wolfgang. KUH- UND SEIDENREIHER ALS FELSWANDBRÜTER AM CAP TRAFALGAR. [CATTLE EGRETS AND LITTLE EGRETS AS CLIFF-NESTERS ON CAPE TRAFALGAR.] Ornithol. Mitteil. 16(9): 179-183, illus. Sept. 1964. In German. WR 126: 51
[Langebrückstrasse 1, Preetz, Germany.] "Ardeola ibis and Egretta garzetta."

Sperber, Ivar, and Christina Sperber. NOTES ON THE FOOD CONSUMPTION (ACTIVITY, STORAGE) OF MERLINS (FALCO COLUMBARIUS AESALON). Zool. Bidrag Uppsala 35: 263-268. 1962. [From Biol. Abstr. 47(18), 1966.] WR 126: 54

Tyler, C. A STUDY OF THE EGG SHELLS OF THE FALCONIFORMES. J. Zool. (London) 150(4): 413-425 + 5 pls. Nov. 1966. WR 126: 54
[Reading Univ., Reading, England.]

von Westernhagen, Wolfgang. GREIFVÖGEL IN ANDALUSIEN. [PREDATORY BIRDS OF ANDALUSIA.] Ornithol. Mitteil. 14(3): 41-48. Mar. 1962. In German. WR 126: 54
[Langebrückstrasse 1, Preetz/Holstein, Germany.] The status and distribution of eagles, hawks, and vultures in Andalusia.

Wehner, Rüdiger. EIN BEITRAG ZUR ERNÄHRUNGSBIOLOGIE DES WALDKAUZES (STRIX ALUCO). [A CONTRIBUTION ON THE FOOD HABITS OF THE TAWNY OWL (STRIX ALUCO).] Ornithol. Mitteil. 14(5): 90-94. May 1962. In German. WR 126: 54
[Promenade 23, Bad Homberg, Germany.]

Willgohs, J. F. FISKEØRNEN, PANDION HALIAETUS (L.), PA VESTLANDET. [THE OSPREY PANDION HALIAETUS IN VESTLAND (NORWAY).] Sterna 6(1): 27-33, illus. 1964. [From Biol. Abstr. 47(24), 1966. In Norwegian with English summ.] WR 126: 54

Zukowsky, L. MEINE BEGEGNUNG MIT DEM SCHWARZEN SEEDLER, HALIAEETUS PELAGICUS NIGER HEUDE, VON KOREA. [MY MEETINGS WITH THE BLACK SEA EAGLE, HALIAEETUS PELAGICUS NIGER HEUDE, OF KOREA.] Zool. Gart. 32(1/2): 54-59. 1966. [From Biol. Abstr. 47(24), 1966. In German.] WR 126: 54
A record of known captive specimens is given. It is believed that this species is not extinct.

BLACKBIRDS, STARLINGS, CROWS

Dyrcz, A. [DISTRIBUTION OF THE BREEDING COLONIES OF THE ROOK, CORVUS FRUGILEGUS L., IN POLAND.] Acta Ornithol. 9: 227-240. 1966. [From Auk 84(1), 1967. In Polish with English and Russian summ.] WR 126: 54
Size of rookeries correlates inversely with colony density, and the latter is positively correlated with corn culture.

Harrison, C. J. O. MOTTLED PLUMAGE IN THE GENUS CORVUS, ITS CAUSATION AND RELATIONSHIP TO FUNDAMENTAL BARRING. Bull. British Ornithol. Club 83: 41-49. 1963. [From Ibis 109(1), 1967.] WR 126: 54

Potts, G. R. URBAN STARLING ROOSTS IN THE BRITISH ISLES. Bird Study 14(11): 25-42, 6 figs. Mar. 1967. WR 126: 54
An analysis of 69 urban roosts in 39 conurbations. There is a tendency for the roosts to be located in the northern industrial areas. There has been a continuous extension of the urban roosting habit at a steady rate for the past 140 years, but the proportion of the total starling population roosting in urban areas is small.--From summ.

Stichmann, Wilfried. UNTERSUCHUNGEN DES WINTERBESTANDS DER KRÄHEN- UND GREIFVÖGEL IN DER WESTFÄLISCHEN BUCHT MIT HILFE VON LINIENTAXIERUNGEN. [INVESTIGATIONS ON THE WINTER POPULATION OF CROWS AND HAWKS IN THE WESTPHALIA BAY WITH USE OF LINE TRANSECT COUNTS.] Ornithol. Mitteil. 16(12): 250-256, 1 fig. + 1 pl. Dec. 1964. In German. WR 126: 54
During the winter of 1963-64 there were in the Westphalia Bay at least 84,000 rooks (Corvus frugilegus), 24,500 jackdaws (C. monedula), 5,500 carrion crows (C. corone), 4,900 magpies (Pica pica), 1,650 buzzards (Buteo buteo), and 560 kestrels (Falco tinnunculus).

BLACKBIRDS, STARLINGS, CROWS--Continued

Wörner, Gustav. DER KOLKRABE (CORVUS CORAX) IN DEN ALLGÄUER ALPEN. [THE RAVEN (CORVUS CORAX) IN THE ALLGÄUER ALPS.] Ornithol. Mitteil. 14(12): 222-226. Dec. 1962. In German. WR 126: 55

OTHER BIRDS

Andrle, Robert F. THE HORNED GUAN IN MÉXICO AND GUATEMALA. Condor 69(2): 93-109, 4 figs. + 1 pl. Mar.-Apr. 1967. WR 126: 55
[Buffalo Museum Sci., Buffalo, N.Y.] Distribution, abundance, habitat, behavior, and preservation of Oreophasis derbianus--one of the lesser known members of the family Cracidae.--Courtesy/ Paul A. Stewart.

Arnold, Keith Alan. THE AVIAN GENUS THRYOTHORUS (TROGLODYTIDAE) IN COSTA RICA: A STUDY IN SPECIES DIVERSITY. Ph.D. thesis, La. State Univ. 125 p. 1966. [From Dissertation Abstr. 27(8B), 1967.] WR 126: 55

Dennis, Roy H. OLIVE-BACKED PIPITS ON FAIR ISLE: A SPECIES NEW TO BRITAIN AND IRELAND. British Birds 60(4): 161-166 + 1 pl. Apr. 1967. WR 126: 55
Descriptions and identification, wing-formula, range and subspecies, and weather and associated migrants of Anthus trivialis.

Feindt, Paul. GEHÄUFTES AUFTRETEN DER BEUTELMEISE (REMIZ PENDULINUS) IM LEINETAL ZWISCHEN HANNOVER UND GÖTTINGEN. [ACCUMULATED OBSERVATIONS OF THE PENDULINE TIT (REMIZ PENDULINUS) IN THE VALLEY BETWEEN HANOVER AND GÖTTINGEN.] Ornithol. Mitteil. 14(2): 27-29, 1 fig. Feb. 1962. In German. WR 126: 55
[Neustädter Markt 50, Hildesheim, Germany.]

Fu, Tung-Sheng, and Peng Chen. [THE DISTRIBUTION AND BREEDING HABITS OF EMBERIZA JANKOWSKII.] Acta Zool. Sinica 18: 195-198. 1966. [From Auk 84(1), 1967. In Chinese with English summ.] WR 126: 55

Gyllin, Roger. STUDIER AV EN KORNSPARVPOPULATION. [A STUDY OF A POPULATION OF CORN BUNTINGS.] Fauna & Flora 60: 225-274, illus. 1965. [From Biol. Abstr. 47(20), 1966. In Swedish with English summ.] WR 126: 55
"Emberiza calandra."

Nelson, J. B. THE BREEDING BEHAVIOUR OF THE WHITE BOOBY SULA DACTYLATRA. Ibis 109(2): 194-231, 16 figs. + 6 pls. Apr. 1967. WR 126: 55
[Univ. Aberdeen, Culterty Field Sta., Newburgh, Scotland.] Morphology, site establishment, pair formation, later pair relations, social interactions, body maintenance behaviour, incubation and care of young are described and an account of behaviour in the young is given.

Nelson, J. B. ETHO-ECOLOGICAL ADAPTATIONS IN THE GREAT FRIGATE-BIRD. Nature 214(5085): 318. 15 Apr. 1967. WR 126: 55
[Univ. Aberdeen, Culterty Field Sta., Newburgh, Scotland.] "Fergata minor."

Taylor, R. H. ADELIE PENGUIN ROOKERIES IN THE ROSS DEPENDENCY. Antarctic 3: 566-570. 1964. [From Ibis 109(1), 1967.] WR 126: 55
A summary of the distribution and size of the Adelie penguin rookeries in this sector of the Antarctic with a view to stimulating a complete survey of the Adelie and emperor penguins (Pygoscelis adeliae and Aptenodytes forsteri resp.) so that populations can be assessed.

Alexander, Douglas Gordon. AN ECOLOGICAL STUDY OF THE SWAMP CRICKET FROG, PSEUDACRIS NIGRITA FERIARUM (BAIRD), WITH COMPARATIVE NOTES ON TWO OTHER HYLIDS OF THE CHAPEL HILL, NORTH CAROLINA REGION. Ph.D. thesis, Univ. N.C. 148 p. 1966. [From Dissertation Abstr. 27(8B), 1967.] WR 126: 56

Anderson, James D. A COMPARISON OF THE LIFE HISTORIES OF COASTAL AND MONTANE POPULATIONS OF AMBYSTOMA MACRODACTYLUM IN CALIFORNIA. Am. Midland Nat. 77(2): 323-355, 6 figs. Apr. 1967. WR 126: 56
[Rutgers Univ., Newark, N.J.]

Anderson, James D., and Robert V. Giacosie. AMBYSTOMA LATERALE IN NEW JERSEY. Herpetologica 23(2): 108-111. 30 June 1967. WR 126: 56
[Rutgers Univ., Newark, N.J.]

Anderson, James D., and Richard E. Graham. VERTICAL MIGRATION AND STRATIFICATION OF LARVAL AMBYSTOMA. Copeia 1967(2): 371-374. 5 June 1967. WR 126: 56
[Rutgers Univ., Newark, N.J.] Abstract: The larvae of Ambystoma opacum generally spend daylight hours hidden on pond bottoms. At night they migrate upwards and remain suspended near the surface in a stratum across the pond. Stratification lasts for several hours; during this time the larvae feed. Vertical migration and stratification do not occur in small larvae or larvae approaching metamorphosis. Similar behavior occurs in larvae of A. tigrinum and members of the A. jeffersonianum complex, but was not observed in larval A. maculatum or Notophthalmus viridescens. Migration and stratification are correlated with decreased light intensity and perhaps movements of food organisms. Where more than one species of Ambystoma occurs in the same pond there is a temporal sequence of stratification. Sequential stratification perhaps decreases competition for food between larvae of sympatric species of Ambystoma.

Anderson, James D., and Paschal J. Martino. FOOD HABITS OF EURYCEA LONGICAUDA LONGICAUDA. Herpetologica 23(2): 105-108. 30 June 1967. WR 126: 56
[Rutgers Univ., Newark, N.J.]

Asplund, Kenneth K. ECOLOGY OF LIZARDS IN THE RELICTUAL CAPE FLORA, BAJA CALIFORNIA. Am. Midland Nat. 77(2): 462-475, 4 figs. Apr. 1967. WR 126: 56
[Univ. Calif., Los Angeles.]

Ballinger, Royce E., and Charles O. McKinney. VARIATION AND POLYMORPHISM IN THE DORSAL COLOR PATTERN OF UTA STANSBURIANA STEJNEGERI. Am. Midland Nat. 77(2): 476-483, 5 figs. Apr. 1967. WR 126: 56
[Washington Univ., St. Louis, Mo.]

Banta, Benjamin H., and David Morafka. AN ANNOTATED CHECK LIST OF THE RECENT AMPHIBIANS AND REPTILES INHABITING THE CITY AND COUNTY OF SAN FRANCISCO, CALIFORNIA. Wasmann J. Biol. 24(2): 223-238. Fall 1966. WR 126: 56
[Mich. State Univ., East Lansing.] Nine amphibians and 12 reptiles are listed for the area and an additional 7 "questionable or otherwise to be verified" species are included.

Bentley, P. J. ADAPTATIONS OF AMPHIBIA TO ARID ENVIRONMENTS. Science 152 (3722): 619-623. 29 Apr. 1966. WR 126: 56
[Duke Univ., Durham, N.C.] "Novel physiological mechanisms not seen in fish aid frogs and toads to conserve water and live in deserts."

Bentley, P. J., and Knut Schmidt-Nielsen. CUTANEOUS WATER LOSS IN REPTILES. Science 151(3717): 1547-1549. 25 Mar. 1966. WR 126: 57
[Duke Univ., Durham, N.C.] Abstract: Cutaneous and respiratory evaporation were compared in five species of reptiles at 23°C. There seemed to be a clear correlation between water loss and aridity of the animal's habitat, total evaporation from the desert lizard Sauromalus obesus being about 5 percent of that from the crocodilian Caiman sclerops. Cutaneous evaporation was the major avenue of water loss in all animals examined. This is contrary to the common belief that reptilian skin is practically impermeable to water.

Berry, P. Y., and Gaik S. Lim. THE BREEDING PATTERN OF THE PUFF-FACED WATER SNAKE, HOMALOPSIS BUCCATA BOULENGER. Copeia 1967(2): 307-313, 2 figs. 5 June 1967. WR 126: 57
[Univ. Malaya, Kuala Lumpur, Malaysia.] Abstract: The reproduction of the ovoviviparous snake Homalopsis buccata in the equatorial climate of Kuala Lumpur, Malaya, was investigated from February 1962 to January 1963. There was no definite breeding season, and juveniles were present at all times of the year. Females in various reproductive conditions were present throughout the year but a statistically significant breeding peak existed from October to March. In males, spermatogenesis is continuous all the year but in October-March a greater proportion of the testes examined showed immediate post-breeding condition. A positive correlation of fat body weight with testis weight was observed in the males, but there was no correlation of fat body weight with the weight of the reproductive tract or reproductive condition in females. There was no seasonal variation of fat body in either males or females. No seasonal change in the diet of this snake was apparent nor was the diet affected by rainfall. It is unlikely that the diet influenced breeding.

Brown, Herbert A. HIGH TEMPERATURE TOLERANCE OF THE EGGS OF A DESERT ANURAN, SCAPHIOPUS HAMMONDII. Copeia 1967(2): 365-370. 5 June 1967. WR 126: 57
[Univ. Calif., Riverside.] Abstract: Temperature tolerance of embryos of Scaphiopus hammondii was measured by exposing different developmental stages to constant, high temperatures for various periods of time. Resistance to high temperatures is greater in later than in earlier embryonic stages. It is estimated that the upper limiting temperature for normal development in the later embryonic stages is 39° or 40° C. Egg laying occurs during the summer months of July and August, and therefore the embryos are exposed to high environmental temperatures which may exceed 39°C. The extremely rapid developmental rate of the spadefoot may be advantageous in removing the more heat-sensitive embryonic stages from exposure to the high environmental temperatures.

Burghardt, Gordon M., and Eckhard H. Hess. FOOD IMPRINTING IN THE SNAPPING TURTLE, CHELYDRA SERPENTINA. Science 151(3706): 108-109. 7 Jan. 1966. WR 126: 57
[Univ. Chicago, Chicago, Ill.] Abstract: Three groups of hatchling snapping turtles, totaling 20, were fed either meat, fish, or worms. When they were tested for preference after 12 daily feedings, each preferred the diet to which it was accustomed. After 12 more days of eating a different food, each still preferred its original diet. A form of imprinting may be operative in the feeding behavior of this species.

Burton, Althea N., J. McLintock, and J. G. Rempel. WESTERN EQUINE ENCEPHALITIS VIRUS IN SASKATCHEWAN GARTER SNAKES AND LEOPARD FROGS. Science 154 (3752): 1029-1031. 25 Nov. 1966. WR 126: 57
[Univ. Saskatchewan, Saskatoon, Canada.]

Bury, R. Bruce, and Michael Martin. THE FOOD OF THE SALAMANDER RHYACOTRITON OLYMPICUS. Copeia 1967(2): 487. 5 June 1967. WR 126: 57
[Sacramento State Coll., Sacramento, Calif.] Arthropods constituted 95% and insects 63% of the items. Freshwater snails and earthworms were plentiful under rocks along the edges of the creeks, but few were eaten.

Bustard, H. Robert. MECHANISM OF NOCTURNAL EMERGENCE FROM THE NEST IN GREEN TURTLE HATCHLINGS. Nature 214(5085): 317. 15 Apr. 1967. WR 126: 58
[Australian Natl. Univ., Canberra, Australia.] "Chelonia mydas."

Bustard, H. Robert. DEFENSIVE DISPLAY BEHAVIOR OF THE AUSTRALIAN GECKO NEPHRURUS ASPER. Herpetologica 23(2): 126-129, [4] figs. 30 June 1967. WR 126: 58
[Australian Natl. Univ., Canberra, Australia.]

Bustard, H. Robert, and R. D. Hughes. GEKKONID LIZARDS: AVERAGE AGES DERIVED FROM TAIL-LOSS DATA. Science 153(3744): 1670-1671, 2 figs. 30 Sept. 1966. WR 126: 58
[Australian Natl. Univ., Canberra, Australia.] Abstract: Information on the rate of tail loss by autotomy, obtained from mark and recapture data, was used to estimate the average ages of adult individuals of the geckos Gehyra variegata and Heteronota binoei; the ages calculated were 4.4 and 1.9 years, respectively.

Carr, Archie, Harold Hirth, and Larry Ogren. THE ECOLOGY AND MIGRATIONS OF SEA TURTLES. 6. THE HAWKSBILL TURTLE IN THE CARIBBEAN SEA. Am. Museum Novitates 2248: 1-29. 1966. [From Biol. Abstr. 47(24), 1966.] WR 126: 58
[Univ. Fla., Gainesville.]

Daly, John W., and Charles W. Myers. TOXICITY OF PANAMANIAN POISON FROGS (DENDROBATES): SOME BIOLOGICAL AND CHEMICAL ASPECTS. Science 156(3777): 970-973, 3 figs. 19 May 1967. WR 126: 58
[Natl. Inst. Arthritis & Metabolic Diseases, Bethesda, Md.]

Daniel, J. C. FIELD GUIDE TO THE AMPHIBIANS OF WESTERN INDIA. 2. J. Bombay Nat. Hist. Soc. 60(3): 691-702, illus. 1963. [From Biol. Abstr. 47 (21), 1966.] WR 126: 58
Diagnosis, color, distribution and breeding habits in 5 genera of Microhylidae.

de Witte, Gaston-Francois. LES CAMÉLÉONS DE L'AFRIQUE CENTRALE (RÉPUBLIQUE DÉMOCRATIQUE DU CONGO, RÉPUBLIQUE DU RWANDA ET ROYAUME DU BURUNDI). [THE CHAMELEONS OF CENTRAL AFRICA (DEMOCRATIC REPUBLIC OF THE CONGO, REPUBLIC OF RWANDA AND KINGDOM OF BURUNDI).] Ann. Museum Roy. Afr. Center Ser. 8 Sci. Zool. 142: 1-215, illus. 1965. [From Biol. Abstr. 47(24), 1966. In French.] WR 126: 58
[Inst. Roy. Sci. Nat., Brussels, Belgium.]

Dmi'el, Razi. STUDIES ON REPRODUCTION, GROWTH, AND FEEDING IN THE SNAKE SPALEROSOPHIS CLIFFORDI (COLUBRIDAE). Copeia 1967(2): 332-346, 3 figs. 5 June 1967. WR 126: 58
[Tel-Aviv Univ., Tel-Aviv, Israel.] Abstract: Spalerosophis cliffordi reproduces by egg-laying during the summer. In captivity, oviposition takes place mainly in July and August. The number of eggs per clutch varied from 3 to 16, depending on the size of the female. The eggs increase in weight by absorbing contact water from the substrate. The weight gain during development may be as high as 35% of the initial weight of the egg. However, no correlation could be established between the weight of hatchlings and the final weight of the eggs. The large amount of water that may be absorbed by the egg is thus not essential for normal development of the embryo. Growth rates of females in each age-group are higher than those of males. The highest specific growth-rates are attained between hatching and maturity, the average value for this period being 25%. The values for adults and aged snakes are 12 and 3%, respectively. Efficiency of conversion of food to body weight and length decreases with age. The level of food efficiency of the older females is so low, that old, reproducing females are unable to keep up their weight after successive ovipositions.

Dunson, William A. RELATIONSHIP BETWEEN LENGTH AND WEIGHT IN THE SPINY SOFT-SHELL TURTLE. Copeia 1967(2): 483-485, 1 fig. 5 June 1967. WR 126: 59
[Pa. State Univ., University Park.] "Chelydra serpentina."

Ehrenfeld, David W., and Arthur L. Koch. VISUAL ACCOMMODATION IN THE GREEN TURTLE. Science 155(3764): 827-828. 17 Feb. 1967. WR 126: 59
[Univ. Fla., Gainesville.] Abstract: Ophthalmological and anatomical studies indicate that the Atlantic green turtle is extremely myopic when its eyes are out of water. This finding bears on current theories of visual orientation and navigation in these animals.

Ernst, Carl H. A MATING AGGREGATION OF THE TURTLE CLEMMYS GUTTATA. Copeia 1967(2): 473-474. 5 June 1967. WR 126: 59
[Univ. Ky., Lexington.]

Fitch, Henry S., and Alice V. Fitch. PRELIMINARY EXPERIMENTS ON PHYSICAL TOLERANCES OF THE EGGS OF LIZARDS AND SNAKES. Ecology 48(1): 160-165, 5 figs. Winter 1967. WR 126: 59
[Univ. Kans., Lawrence.] "Coluber constrictor, Diadophis punctatus, Elaphe obsoleta, Crotaphytus collaris, Eumeces fasciatus, Eumeces obsoletus, Scincella laterale, and Holbrookia maculata."--Courtesy/ Paul A. Stewart.

Forselius, Sten. DISTRIBUTION AND REPRODUCTIVE BEHAVIOR OF RANA ESCULENTA L. IN THE COASTAL AREA OF N. UPPLAND, C. SWEDEN. Zool. Bidrag Uppsala 35: 517-528, illus. 1962/1963. [From Biol. Abstr. 47(18), 1966.] WR 126: 59
[Zool. Inst., Uppsala, Sweden.]

Foster, Woodbridge A. CHORUS STRUCTURE AND VOCAL RESPONSE IN THE PACIFIC TREE FROG, HYLA REGILLA. Herpetologica 23(2): 100-104. 30 June 1967. WR 126: 59
[Univ. Calif., Berkeley.]

Fukada, Hajime. BIOLOGICAL STUDIES ON THE SNAKES. XI: EGGS AND YOUNG OF TRIMERESURUS OKINAVENSIS BOULENGER. Bull. Kyoto Gakugei Univ. 24: 7-11, illus. 1964. [From Biol. Abstr. 47(21), 1966.] WR 126: 59

Greer, Allen E. NOTES ON THE MODE OF REPRODUCTION IN ANGUID LIZARDS. Herpetologica 23(2): 94-99. 30 June 1967. WR 126: 59
[Harvard Univ., Cambridge, Mass.]

Hammel, H. T., Fred T. Caldwell, Jr., and Robert M. Abrams. REGULATION OF BODY TEMPERATURE IN THE BLUE-TONGUED LIZARD. Science 156(3779): 1260-1262, 1 fig. 2 June 1967. WR 126: 59
[John B. Pierce Foundation Lab., New Haven, Conn.] "Tiliqua scincoides."

Harrison, Julian R. OBSERVATIONS ON THE LIFE HISTORY, ECOLOGY AND DISTRIBUTION OF DESMOGNATHUS AENEUS AENEUS BROWN AND BISHOP. Am. Midland Nat. 77 (2): 356-370, 3 figs. Apr. 1967. WR 126: 59
[Coll. of Charleston, Charleston, S.C.]

Heyer, W. Ronald. A HERPETOFAUNAL STUDY OF AN ECOLOGICAL TRANSECT THROUGH THE CORDILLERA DE TILARÁN, COSTA RICA. Copeia 1967(2): 259-271, 6 figs. 5 June 1967. WR 126: 59
[Univ. Southern Calif., Los Angeles.] Thirteen major patterns of distribution of 4 herpetological assemblages comprising 136 spp. of reptiles and amphibians are recognized.

Hillenius, D. NOTES ON CHAMELEONS: III. THE CHAMELEONS OF SOUTHERN ARABIA. Beaufortia Ser. Misc. Publ. Zool. Museum Amsterdam 13(156): 91-108, illus. 1966. [From Biol. Abstr. 47(23), 1966.] WR 126: 59
[Univ. Amsterdam, Amsterdam, Netherlands.]

Hubbs, Clark, and F. Douglas Martin. BUFO VALLICEPS BREEDING IN ARTIFICIAL POOLS. Southwestern Nat. 12(1): 105-106. 20 Apr. 1967. WR 126: 60
[Univ. Texas, Austin.]

Jasinski, Andrzej, and Aubrey Gorbman. HYPOTHALAMIC NEUROSECRETION IN THE SPADEFOOT TOAD, SCAPHIOPUS HAMMONDI, UNDER DIFFERENT ENVIRONMENTAL CONDITIONS. Copeia 1967(2): 271-279, 7 figs. 5 June 1967. WR 126: 60
[Jagiellonian Univ., Cracow, Poland.]

Krivosheev, V. G. [BIOLOGY OF THE FROG RANA CHENSINENSIS IN YAKUTIA.] Zool. Zhur. 45(2): 308-310. 1966. [From Biol. Abstr. 47(23), 1966. In Russian with English summ.] WR 126: 60

Kurfess, John F. MATING, GESTATION, AND GROWTH RATE IN LICHANURA R. ROSEOFUSCA. Copeia 1967(2): 477-479, 1 fig. 5 June 1967. WR 126: 60
[Defense Atomic Support Agency, Washington, D.C.]

Lambert, Lewis H., Jr. 'ANECTINE': A HERPETOLOGICAL KILLING AGENT. Herpetologica 23(2): 135-136. 30 June 1967. WR 126: 60
[3001 Laurel Dr., Sacramento, Calif.]

Landreth, Hobart F., and Denzel E. Ferguson. MOVEMENTS AND ORIENTATION OF THE TAILED FROG, ASCAPHUS TRUEI. Herpetologica 23(2): 81-93, 4 figs. 30 June 1967. WR 126: 60
[Miss. State Coll., State College.]

Lescure, Jean. L'ALIMENTATION DU CRAPAUD COMMUN BUFO BUFO LINNAEUS, 1758. [THE FOOD OF THE COMMON TOAD BUFO BUFO LINNAEUS, 1758.] Vie Milieu 15(3): 757-764, illus. 1965. [From Biol. Abstr. 47(20), 1966. In French.] WR 126: 60
[Mus. Hist. Nat., Brunoy, France.]

Licht, Lawrence E. INITIAL APPEARANCE OF THE PAROTOID GLAND IN THREE SPECIES OF TOADS (GENUS BUFO). Herpetologica 23(2): 115-118, 1 fig. 30 June 1967. WR 126: 60
[Univ. Texas, Austin.]

Licht, Paul. REPRODUCTION IN LIZARDS: INFLUENCE OF TEMPERATURE ON PHOTOPERIODISM IN TESTICULAR RECRUDESCENCE. Science 154(3757): 1668-1670, 1 fig. 30 Dec. 1966. WR 126: 60
[Univ. Calif., Berkeley.] Abstract: The photoperiodic response of the testis in Anolis carolinensis is very temperature-sensitive. Body temperatures must be elevated to near preferred levels (about 32°C) during at least part of the daily light period for long day-lengths to be effective in stimulating testicular recrudescence. High temperatures during the night, with cool days (20°C), may retard testicular growth more than do continuously low temperatures.

Lynn, W. Gardner. THYROID MORPHOLOGY IN LIZARDS OF THE FAMILIES EUBLEPHARIDAE, SPHAERODACTYLIDAE, AND GEKKONIDAE. Copeia 1967(2): 476-477. 5 June 1967. WR 126: 60
[Catholic Univ. America, Washington, D.C.]

Maher, Michael J. RESPONSE TO THYROXINE AS A FUNCTION OF ENVIRONMENTAL TEMPERATURE IN THE TOAD, BUFO WOODHOUSII, AND THE FROG, RANA PIPIENS. Copeia 1967(2): 361-365, 1 fig. 5 June 1967. WR 126: 60
[Univ. Kans., Lawrence.] Abstract: Thyroxine was administered to toads, Bufo woodhousii, and frogs, Rana pipiens, maintained at various environmental temperatures. Toads show a significant increase in oxygen consumption with thyroxine injections while being maintained at 5°, 10°, 15°, 20°, and 25° C. Frogs respond to thyroxine treatment with increased oxygen consumption while being maintained at 20° and 25° C, but show no response to the hormone at 10° or 15° C. The difference in response to thyroxine between the two species may be related to the fact that Bufo woodhousii is a nocturnal animal, whereas Rana pipiens is diurnal and heliothermic.

Mahmoud, I. Y. COURTSHIP BEHAVIOR AND SEXUAL MATURITY IN FOUR SPECIES OF KINOSTERNID TURTLES. Copeia 1967(2): 314-319, 3 figs. 5 June 1967. WR 126: 61
[Wis. State Univ., Oshkosh.] Abstract: The courtship behavior in Kinosternon subrubrum hippocrepis, K. f. flavescens, Sternothaerus odoratus, and S. carinatus, was studied both in the field and in captivity. Courtship performances in the four species were very similar and were divisible into three phases: tactile; mounting and intromission; and biting and rubbing. Sexual maturity is attained between four and seven years of age in males, five to eight years in females.

Mazur, Tadeusz. PRELIMINARY STUDIES ON THE COMPOSITION OF AMPHIBIANS' FOOD. Ekologia Polska--Ser. A 14(20): 309-319, 2 figs. 1966. In English with Polish summ. WR 126: 61
[Inst. Ecol., Polish Acad. Sci., Turew, pow. Kościan, Poland.]

McCoy, C. J., and G. A. Hoddenbach. GEOGRAPHIC VARIATION IN OVARIAN CYCLES AND CLUTCH SIZE IN CNEMIDOPHORUS TIGRIS (TEIIDAE). Science 154(3757): 1671-1672, 1 fig. 30 Dec. 1966. WR 126: 61
[Carnegie Museum, Pittsburgh, Pa.] Abstract: Ovarian cycles and individual reproductive potentials of Cnemidophorus tigris in Colorado and Texas were studied by counts and measurements of yolked ovarian follicles, corpora lutea, and oviducal eggs. Colorado lizards lay one clutch averaging 3.4 eggs annually between two clutches, each averaging 2.2 eggs, between April and mid-August.

McGinnis, Samuel M. THE ADAPTATION OF BIOTELEMETRY TECHNIQUES TO SMALL REPTILES. Copeia 1967(2): 472-473, 2 figs. 5 June 1967. WR 126: 61
[Calif. State Coll., Hayward.]

Mżynarski, Marian. PROBLEMY ROZSIEDLENIA GEOGRAFICZNEGO GADÓW. [PROBLEMS IN THE GEOGRAPHIC DISTRIBUTION OF REPTILES.] Kosmos (Lwow) 13(4): 305-319, illus. 1964. [From Biol. Abstr. 47(17), 1966. In Polish.] WR 126: 61
[Inst. Syst. Zool., Polish Acad. Sci., Warsaw, Poland.]

Moehn, Loren D. A COMBAT DANCE BETWEEN TWO PRAIRIE KINGSNAKES. Copeia 1967 (2): 480-481. 5 June 1967. WR 126: 61
[Univ. Ill., Urbana.]

Montanucci, Richard R. FURTHER STUDIES ON LEOPARD LIZARDS, CROTAPHYTUS WISLIZENII. Herpetologica 23(2): 119-126, 1 fig. 30 June 1967. WR 126: 61
[2366 Olive, Dos Palos, Calif.]

Myers, Charles W. THE PINE WOODS SNAKE, RHADINAEA FLAVILATA (COPE). Bull. Fla. State Museum 11(2): 47-97, 12 figs. 3 Feb. 1967. Price 90¢. WR 126: 61
[Univ. Kans., Manhattan.] Taxonomy, distribution, ecology, variation, affinities and evolution of the pine woods snake.

Peters, James A. THE LIZARDS OF ECUADOR, A CHECK LIST AND KEY. Proc. U.S. Natl. Museum 119(3545): 1-49, 6 figs. 1967. WR 126: 61
[Smithsonian Inst., Washington, D.C.]

Pisani, George R. NOTES ON THE COURTSHIP AND MATING BEHAVIOR OF THAMNOPHIS BRACHYSTOMA (COPE). Herpetologica 23(2): 112-115. 30 June 1967. WR 126: 61
[St. Bonaventure Univ., St. Bonaventure, N.Y.]

Porter, Kenneth R., and Wendy F. Porter. VENOM COMPARISONS AND RELATIONSHIPS OF TWENTY SPECIES OF NEW WORLD TOADS (GENUS BUFO). Copeia 1967(2): 298-307, 12 figs. 5 June 1967. WR 126: 61
[Univ. Denver, Denver, Colo.]

Rossman, Douglas A., and others. SYMPOSIUM ON COLUBRID SNAKE SYSTEMATICS / MIAMI BEACH, FLORIDA / 20 JUNE 1966. Herpetologica 23(2): 137-168, [12] figs. 30 June 1967. WR 126: 62

[La. State Univ., Baton Rouge.] The following papers (after an introductory paper by the moderator Rossman) were presented: Hemipenes and other characters in colubrid classification, Herndon G. Dowling; Variations of colubrid skulls, their correlations and their value in taxonomy, T. P. Haines; Systematic implications from the labial glands of the Colubridae, Aaron M. Taub; Molecular approach to the taxonomy of colubrid snakes, Herbert C. Dessauer; The synthetic approach to colubrid classification, Joseph R. Bailey; A comprehensive approach to the classification of higher snakes, Garth Underwood.

Schoener, Thomas W. THE ECOLOGICAL SIGNIFICANCE OF SEXUAL DIMORPHISM IN SIZE IN THE LIZARD ANOLIS CONSPERSUS. Science 155(3761): 474-477, 3 figs. 27 Jan. 1967. WR 126: 62

[Harvard Univ., Cambridge, Mass.] Abstract: Adult males of Anolis conspersus capture prey of significantly larger size and occupy perches of significantly greater diameter and height than do adult females; similarly, these three dimensions of the niche are significantly larger for adult females than for juveniles. Adult males on the average eat a smaller number of prey, and the range in size of prey is larger. The relationship between the average length of the prey and that of the predator is linear when the predator size is above 36 millimeters, but becomes asymptotic when it is below that value. Subadult males as long as adult females eat significantly larger food than do the latter, but only in the larger lizards is this correlated with a relatively larger head. Anolis conspersus selects prey from a wide range of taxa and shows no obvious intraspecific specialization not connected to differences in microhabitat and prey size. The efficiency of this system for solitary species is pointed out.

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[Univ. Mich., Ann Arbor.] Abstract: Photoperiod does not affect timing of the female reproductive cycle in Uta stansburiana. This lizard is refractory to reproduction until early December. Later, prolonged warmth under laboratory conditions initiates the reproductive cycle in some lizards regardless of photoperiod.

Tinkle, Donald W., and Donald W. Woodward. RELATIVE MOVEMENTS OF LIZARDS IN NATURAL POPULATIONS AS DETERMINED FROM RECAPTURE RADII. Ecology 48(1): 166-168. Winter 1967. WR 126: 63
[Univ. Mich., Ann Arbor.] Abstract: The mean recapture radius has been shown to be an accurate measure of the degree of movements in populations of the lizard Uta stansburiana. It is relatively constant for differing numbers of captures, different numbers of individuals, different years in the same study area and for different periods of time. It is sensitive to density with which it varies inversely. Differences in the mean recapture radii for males and females of 4 populations of Uta stansburiana are presented and discussed. Differences between these populations were particularly correlated to differences in the social behavior of this species in different parts of its range.--Courtesy/ Paul A. Stewart.

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